Certifications

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657

NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX **El Paso:** T104704221-08-TX **Midland:** T104704392-08-TX

LELAP-02003 LELAP-02002

Kansas E-10317

Analytical and Quality Control Report

Jennifer Davis WTS Building 126 3RD Floor P.O. Box 363 WSMR, NM, 88002

Report Date: October 7, 2008

Work Order: 8080828

Project Name: HELSTF GROUNDWATER

Project Number: 65

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	111116	Date
\mathbf{Sample}	Description	Matrix	Taken	Taken	$\operatorname{Received}$
170067	HLSF-0085-HMW-014-0808	water	2008-08-06	14:15	2008-08-06
170168	HLSF-0085-HMW-055-0808	water	2008-08-08	13:16	2008-08-08
170170	HLSF-0085-HMW-010-0808	water	2008-08-07	10:20	2008-08-07
170455	HLSF-0085-HMW-054-0808	water	2008-08-11	10:08	2008-08-11
170457	HLSF-0085-D RW-008-0808	water	2008-08-11	12:55	2008-08-11
170843	HLSF-0085-HMW-043-0808	water	2008-08-13	09:45	2008-08-13
170986	HLSF-0085-DRW-017-0808	water	2008-08-14	10:30	2008-08-14
171111	HLSF-0085-HMW-062-0808	water	2008-08-18	14:00	2008-08-18
171300	HLSF-0085-HMW-008-0808	water	2008-08-19	10:48	2008-08-19
171303	HLSF-0085-HMW-034-0808	water	2008-08-19	12:46	2008-08-19
171731	HLSF-0085-HMW-033-0808	water	2008-08-21	09:42	2008-08-21
171733	HLSF-0085-HMW-059-0808	water	2008-08-21	11:45	2008-08-21
171735	HLSF-0085-DRW-016-0808	water	2008-08-22	10.25	2008-08-22
172137	HLSF-0085-DRW-114-0808	water	2008-08-27	13:35	2008-08-27
172139	HLSF-0085-DRW-014-0808	water	2008-08-27	13:35	2008-08-27

			\mathbf{Date}	Time	Date
Sample	Description	Matrix	Taken	Taken	$\operatorname{Received}$
172467	HLSF-0085-HMW-053-0808	water	2008-08-28	12:20	2008-08-28
172638	HLSF-0085-HMW-061-0908	water	2008-09-02	10:25	2008-09-02
172640	HLSF-0085-HMW-060-0908	water	2008-09-02	13:15	2008-09-02
172795	HLSF-0085-HMW-063-0908	water	2008-09-03	12:50	2008-09-03
172797	HLSF-0085-HMW-058-0908	water	2008-09-03	10:10	2008-09-05
172908	HLSF-0085-HMW-057-0908	water	2008-09-04	11:15	2008-09-04
172910	HLSF-0085-DRW-002-0908	water	2008-09-04	13:41	2008-09-04
173041	HLSF-0085-RB-001-0908	water	2008-09-08	15:30	2008-09-09
173043	HLSF-0085-HCF-003-0908	water	2008-09-08	12:00	2008-09-08
173045	HLSF-0085-HCF-103-0908	water	2008-09-08	12:00	2008-09-08

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 77 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

Dr. Blair Leftwich, Director

Standard Flags

 $\boldsymbol{B}\,$ - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project HELSTF GROUNDWATER, HELSTF GROUND-WATER, HELSTF GROUNDWATER, HELSTF GROUNDWATER, HELSTF GROUNDWA-TER, HELSTF GROUNDWATER, HELSTF STF GROUNDWATER, HELSTF GROUNDWATER, HELSTF GROUNDWATER, HELSTF GROUNDWATER and HEL-STF GROUNDWATER were received by TraceAnalysis, Inc. on 2008-08-06, 2008-08-08, 2008-08-07, 2008-08-11, 2008-08-11, 2008-08-13, 2008-08-14, 2008-08-18, 2008-08-19, 2008-08-19, 2008-08-21, 2008-08-21, 2008-08-22, 2008-08-27, 2008-08-27, 2008-08-29, 2008-08-28, 2008-09-02, 2008-09-02, 2008-09-03, 2008-09-05, 2008-09-04, 2008-09-04, 2008-09-09, 2008-09-08 and 2008-09-08 and assigned to work orders 8080828, 8081109, 8081110, 8081318, 8081319, 8081533, 8081820, 8082006, 8082103, 8082105, $8082517,\ 8082518,\ 8082519,\ 8082824,\ 8082825,\ 8090219,\ 8090411,\ 8090412,\ 8090519,\ 8090520,\ 8090810,\ 8090811,\ 8091019,$ 8091020 and 8091021 respectively. Samples for work order 8080828 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8081109 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8081110 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8081318 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8081319 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8081533 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8081820 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8082006 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8082103 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8082105 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8082517 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8082518 were received intact without headspace and at a temperature of 4.0 deg C.Samples for work order 8082519 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8082824 were received intact without headspace and at a temperature of 4.0 dec C.Samples for work order 8082825 were received intact without headspace and at a temperature of 4.0 dec C.Samples for work order 8090219 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8090411 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8090412 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8090519 were received intact without headspace and at a temperature of 4.0 dec C.Samples for work order 8090520 were received intact without headspace and at a temperature of 4.0 deg.C.Samples for work order 8090810 were received intact without headspace and at a temperature of 4.0 dec C.Samples for work order 8090811 were received intact without headspace and at a temperature of 4.0 dec C.Samples for work order 8091019 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8091020 were received intact without headspace and at a temperature of 4.0 deg. C.Samples for work order 8091021 were received intact without headspace and at a temperature of 4.0 deg. C.

Samples were analyzed for the following tests using their respective methods.

Test	Method
Chloride (IC)	E 300.0
Fluoride (IC)	E 300.0
SO4 (IC)	E~300.0

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The

MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work orders 8080828, 8081109, 8081110, 8081318, 8081319, 8081533, 8081820, 8082006, 8082103, 8082105, 8082517, 8082518, 8082519, 8082824, 8082825, 8090219, 8090411, 8090412, 8090519, 8090520, 8090810, 8090811, 8091019, 8091020 and 8091021 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Work Order: 8080828 HELSTF GROUNDWATER

Analytical Report

Sample: 170067 - HLSF-0085-HMW-014-0808

Laboratory: El Paso

Analytical Method: Analysis: Chloride (IC) E 300.0 QC Batch: Date Analyzed: 51559 2008-08-08 Prep Batch: 44210Sample Preparation: 2008-08-08

Prep Method: N/A Analyzed By: MD Prepared By: JR

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RL

Parameter	Flag	Result	Units	Dilution	RL
Chloride		8750	mg/L	500	2.00

Sample: 170067 - HLSF-0085-HMW-014-0808

Laboratory: El Paso

Analysis: Fluoride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: Date Analyzed: 2008-08-08 Analyzed By: 51559MDPrep Batch: 44210 Sample Preparation: 2008-08-08 Prepared By: JR

RLParameter Flag Result Units

Dilution RLFluoride <10.0 50 0.200 mg/L

Sample: 170067 - HLSF-0085-HMW-014-0808

Laboratory: El Paso

Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 51559 Date Analyzed: 2008-08-08 Analyzed By: MD Prep Batch: 44210 Sample Preparation: 2008-08-08 Prepared By: JR

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		14500	$_{ m mg/L}$	1000	1.00

Sample: 170168 - HLSF-0085-HMW-055-0808

Laboratory: El Paso

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A QC Batch: 51593 Date Analyzed: 2008-08-13 Analyzed By: JRPrep Batch: 44242Sample Preparation: 2008-08-13 Prepared By: JR

 $\overline{continued}$. . .

Work Order: 8080828 HELSTF GROUNDWATER Page Number: 6 of 77

sample 170168 continued ...

		RL			
Parameter	Flag	Result	Units	Dilution	RL
		m RL			
D	T-1		TT :	D'I 4'	DI
Parameter	Flag	Result	Units	$\operatorname{Dilution}$	RL
Chloride		1960	m mg/L	100	2.00

Sample: 170168 - HLSF-0085-HMW-055-0808

Laboratory: El Paso

Analysis: Analytical Method: Prep Method: Fluoride (IC) E 300.0 N/AQC Batch: 51560 Date Analyzed: 2008-08-19 Analyzed By: JRPrep Batch: 44211Sample Preparation: 2008-08-08 Prepared By: JR

Sample: 170168 - HLSF-0085-HMW-055-0808

Laboratory: El Paso

Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 51593 Date Analyzed: 2008-08-13 Analyzed By: $_{
m JR}$ Prep Batch: 44242Sample Preparation: 2008-08-13 Prepared By: $_{
m JR}$ RL

Sample: 170170 - HLSF-0085-HMW-010-0808

Laboratory: El Paso

Analysis: Chloride (IC) Analytical Method: Prep Method: N/AE 300.0 QC Batch: 51593 Date Analyzed: 2008-08-13 Analyzed By: JRPrep Batch: Sample Preparation: 442422008-08-13 Prepared By: JR

 Report Date: October 7, 2008 Work Order: 8080828 Page Number: 7 of 77 HELSTF GROUNDWATER

El Paso Laboratory:

Analysis: Fluoride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: Date Analyzed: 2008-08-19 JR51560 Analyzed By: Prep Batch: 44211 Sample Preparation: 2008-08-08 Prepared By: JR

RL

Dilution Parameter Flag Result Units RL3.05 0.200 Fluoride mg/L 5

Sample: 170170 - HLSF-0085-HMW-010-0808

Laboratory: El Paso

Analysis: SO4 (IC) Analytical Method: E 300.0Prep Method: N/AQC Batch: 51593 Date Analyzed: 2008-08-13 Analyzed By: JRPrep Batch: 44242 Sample Preparation: 2008-08-13 Prepared By: JR

RL

Flag Result Dilution Parameter Units RLSulfate 9000 mg/L500 1.00

Sample: 170455 - HLSF-0085-HMW-054-0808

Laboratory: El Paso

Analytical Method: Analysis: Chloride (IC) E 300.0 Prep Method: N/AQC Batch: 51679 Date Analyzed: Analyzed By: JR2008-08-14 Prep Batch: 44311Sample Preparation: 2008-08-14 Prepared By: JRRL

Parameter Flag Result Units Dilution RLChloride 1770100 2.00 mg/L

Sample: 170455 - HLSF-0085-HMW-054-0808

Laboratory: El Paso

Analysis: Fluoride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: Date Analyzed: 2008-08-14 Analyzed By: JR51679 Prep Batch: 44311 Sample Preparation: 2008-08-14 Prepared By: JR

RLFlag Result Dilution Parameter Units RLFluoride 2.02 mg/L5 0.200 Report Date: October 7, 2008 Work Order: 8080828 Page Number: 8 of 77

65 —————		HELSTF GROUNDWATER					
Sample: 17	0455 - HLSF-0085-	-HMW-054-0808					
Laboratory:	El Paso						
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:			
QC Batch:	51679	Date Analyzed:	2008-08-14	Analyzed By:			

Prep Batch: 4431	1	Sample Preparation:	2008-08-14	Prepared By:	$_{ m JR}$
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		6920	mg/L	500	1.00

N/A

 $_{
m JR}$

Laboratory: Analysis: QC Batch: Prep Batch:	El Paso Chloride (IC) 51680 44312	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2008-08-14 2008-08-14	Prep Method Analyzed By Prepared By	: JŔ
ъ.	T)	RL	TT 1.	Du el	DI

Parameter	Flag	Result	Units	Dilution	RL
Chloride		1130	m mg/L	100	2.00

Sample: 170457 - HLSF-0085-D RW-008-0808 Laboratory: El Paso

Easoratory.	211000				
Analysis:	Fluoride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	51679	Date Analyzed:	2008-08-14	Analyzed By:	$_{ m JR}$
Prep Batch:	44311	Sample Preparation:	2008-08-14	Prepared By:	$_{ m JR}$
		RL			

		$\kappa_{ m L}$			
Parameter	Flag	Result	Units	Dilution	RL
Fluoride		3.67	m mg/L	5	0.200

Sample: 170457 - HLSF-0085-D RW-008-0808

Sulfate

Sample: 170457 - HLSF-0085-D RW-008-0808

Laboratory: Analysis: QC Batch: Prep Batch:	SO4 (IC) 51680		Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2008-08-14 2008-08-14	Prep Method: Analyzed By: Prepared By:	m JR
Danamatan		Ela m	RL Bogult	Unito	Dilution	DI
Parameter		Flag	Result	Units	Dilution	RL

mg/L

500

1.00

5920

Report Date: October 7, 2008 65		Work Order: 8 HELSTF GROUN		Page Number:	9 of 77
Sample: 17	0843 - HLSF-0085-HM	W-043-0808			
Laboratory:	El Paso				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	51680	Date Analyzed:	2008-08-14	Analyzed By:	m JR
Prep Batch:	44312	Sample Preparation:	2008-08-14	Prepared By:	JR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		424	m mg/L	50	2.00
Sample: 17	0843 - HLSF-0085-HM	W-043-0808			

Laboratory: Analysis: QC Batch: Prep Batch:	El Paso Fluoride (IC) 51680 44312	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2008-08-14 2008-08-14	Prep Method: Analyzed By: Prepared By:	,
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Fluoride		4.35	$\mathrm{mg/L}$	5	0.200

Sample: 17	0843 - HLSF- 0085 -HMW- 0	143-0808			
Laboratory:	El Paso				
Analysis:	SO4 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	51680	Date Analyzed:	2008-08-14	Analyzed By:	$_{ m JR}$
Prep Batch:	44312	Sample Preparation:	2008-08-14	Prepared By:	$_{ m JR}$
		RL			

Parameter	Flag	Result	Units	$\operatorname{Dilution}$	RL
Sulfate		4100	m mg/L	100	1.00

Sample: 170986 - HLSF-0085-DRW-017-0808

Laboratory: El Paso Analytical Method: Prep Method: N/A Analysis: Chloride (IC) $\to 300.0$ QC Batch: 51682Date Analyzed: 2008-08-18 Analyzed By: $_{ m JR}$ Prep Batch: 44314 Sample Preparation: 2008-08-18 Prepared By: JRRL Flag Parameter Result UnitsDilution RLChloride 1710 100 mg/L2.00

Work Order: 8080828 HELSTF GROUNDWATER

Sample: 170986 - HLSF-0085-DRW-017-0808

El Paso Laboratory:

Analysis: Fluoride (IC) Analytical Method: E 300.0 QC Batch: Date Analyzed: 51682 2008-08-18 Prep Batch: 44314Sample Preparation: 2008-08-18

RL

RL

Dilution Parameter Flag Result Units RL2.020.200 Fluoride mg/L 5

Sample: 170986 - HLSF-0085-DRW-017-0808

Laboratory: El Paso

Analysis: SO4 (IC) Analytical Method: E 300.0QC Batch: 51682Date Analyzed: 2008-08-18 Prep Batch: 44314 Sample Preparation: 2008-08-18

Analyzed By: JRPrepared By: JR

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Prep Method:

Analyzed By:

Prepared By:

Prep Method:

N/A

JR

JR

N/A

Flag Result Dilution Parameter Units RLSulfate 6370mg/L500 1.00

Sample: 171111 - HLSF-0085-HMW-062-0808

Laboratory: El Paso

Analytical Method: Analysis: Chloride (IC) E 300.0 Prep Method: N/AQC Batch: Date Analyzed: Analyzed By: JR51798 2008-08-20 Prep Batch: 44424Sample Preparation: 2008-08-20 Prepared By: JR

RLParameter Flag Result Units Dilution RLChloride 1810 100 2.00 mg/L

Sample: 171111 - HLSF-0085-HMW-062-0808

Laboratory: El Paso

Analysis: Fluoride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 2008-08-20 Analyzed By: JR51798 Date Analyzed: Prep Batch: 44424 Sample Preparation: 2008-08-20 Prepared By: JR

RL

Result Dilution Parameter Flag Units RLFluoride 1.92mg/L5 0.200 Report Date: October 7, 2008 Work Order: 8080828
65 HELSTF GROUNDWATER

Sulfate

Sample: 171111 - HLSF-0085-HMW-062-0808 El Paso Laboratory: Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 51798 Date Analyzed: JR2008-08-20 Analyzed By: Prep Batch: 44424Sample Preparation: 2008-08-20 Prepared By: $_{
m JR}$ RLParameter Flag Result Units Dilution RLSulfate 1.00 5770 mg/L 500 Sample: 171300 - HLSF-0085-HMW-008-0808 Laboratory: El Paso Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 51799 Date Analyzed: 2008-08-20 Analyzed By: JRPrep Batch: 44425 Sample Preparation: 2008-08-20 Prepared By: JRRLFlag Result Dilution Parameter Units RLChloride 1200 mg/L100 2.00 Sample: 171300 - HLSF-0085-HMW-008-0808 Laboratory: El Paso Analytical Method: Analysis: Fluoride (IC) E 300.0 Prep Method: N/AQC Batch: Date Analyzed: Analyzed By: JR51798 2008-08-20 Prep Batch: 44424Sample Preparation: 2008-08-20 Prepared By: JRRLParameter Flag Result Units Dilution RLFluoride 2.37mg/L 5 0.200 Sample: 171300 - HLSF-0085-HMW-008-0808 Laboratory: El Paso Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 51799 2008-08-20 Analyzed By: JRDate Analyzed: Prep Batch: 44425 Sample Preparation: 2008-08-20 Prepared By: JRRLFlag Result Parameter Units Dilution RL

7240

mg/L

500

1.00

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Work Order: 8080828 HELSTF GROUNDWATER Page Number: 12 of 77

N/A

JR

 $_{
m JR}$

Sample: 171303 - HLSF-0085-HMW-034-0808

Laboratory: El Paso

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: QC Batch: 51799 Date Analyzed: 2008-08-20 Analyzed By: Prep Batch: 44425 Sample Preparation: 2008-08-20 Prepared By:

RL

Sample: 171303 - HLSF-0085-HMW-034-0808

Laboratory: El Paso

Analysis: Fluoride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 51798 Date Analyzed: 2008-08-20 Analyzed By: JRPrep Batch: 44424 Sample Preparation: 2008-08-20 Prepared By: JR

RL

RL

Sample: 171303 - HLSF-0085-HMW-034-0808

Laboratory: El Paso

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 51799 Date Analyzed: Analyzed By: JR2008-08-20 Prep Batch: 44425Sample Preparation: 2008-08-20 Prepared By: JR

Sample: 171731 - HLSF-0085-HMW-033-0808

Laboratory: El Paso

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 51800 2008-08-22 Analyzed By: JRDate Analyzed: Prep Batch: 44426 Sample Preparation: 2008-08-22 Prepared By: JR

RL

Work Order: 8080828 HELSTF GROUNDWATER Page Number: 13 of 77

Prepared By:

JR

Sample: 171731 - HLSF-0085-HMW-033-0808

El Paso Laboratory: Analysis: Fluoride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: Date Analyzed: 2008-08-22 JR51800 Analyzed By: Prep Batch: 44426 Sample Preparation: 2008-08-22 Prepared By: JR

RL

Dilution Parameter Flag Result Units RL0.200 Fluoride 4.01 mg/L 10

Sample: 171731 - HLSF-0085-HMW-033-0808

Laboratory: El Paso Analysis: SO4 (IC) Analytical Method: E 300.0Prep Method: N/AAnalyzed By: JR

QC Batch: 51800 Date Analyzed: 2008-08-22 Prep Batch: 44426 Sample Preparation: 2008-08-22

RLResult Dilution Parameter Flag Units RLSulfate 13100 mg/L500 1.00

Sample: 171733 - HLSF-0085-HMW-059-0808

Laboratory: El Paso

Analytical Method: Analysis: Chloride (IC) E 300.0 Prep Method: N/AQC Batch: Date Analyzed: Analyzed By: JR51800 2008-08-22 Prep Batch: 44426Sample Preparation: 2008-08-22 Prepared By: JR

RLParameter Flag Result Units Dilution RLChloride 867 100 2.00 mg/L

Sample: 171733 - HLSF-0085-HMW-059-0808

Laboratory: El Paso

Analysis: Fluoride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 51800 2008-08-22 Analyzed By: JRDate Analyzed: Prep Batch: 44426 Sample Preparation: 2008-08-22 Prepared By: JR

RLResult Parameter Flag Units Dilution RLFluoride 2.29mg/L0.200

Work Order: 8080828 HELSTF GROUNDWATER

Sample: 171733 - HLSF-0085-HMW-059-0808

El Paso Laboratory:

Analysis: SO4 (IC) Analytical Method: E 300.0 QC Batch: 51800 Date Analyzed: 2008-08-22 Prep Batch: 44426

Prep Method: N/AJRAnalyzed By: Sample Preparation: 2008-08-22 Prepared By: $_{
m JR}$

RL

Parameter Flag Result Units Dilution RLSulfate 1.00 6150mg/L 500

Sample: 171735 - HLSF-0085-DRW-016-0808

Laboratory: El Paso

Analysis: Chloride (IC) Analytical Method: E 300.0 QC Batch: 51801 Date Analyzed: 2008-08-22 Prep Batch: 44427 Sample Preparation: 2008-08-22

Prep Method: N/AAnalyzed By: JRPrepared By: JR

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RLFlag Result Dilution Parameter Units RLChloride 2750 mg/L500 2.00

Sample: 171735 - HLSF-0085-DRW-016-0808

Laboratory: El Paso

Analytical Method: Analysis: Fluoride (IC) E 300.0 QC Batch: Date Analyzed: 51801 2008-08-22 Prep Batch: 44427Sample Preparation: 2008-08-22 Prep Method: N/AAnalyzed By: JR

JR

Prepared By:

RL

Parameter Flag Result Units Dilution RLFluoride 2.73mg/L 10 0.200

Sample: 171735 - HLSF-0085-DRW-016-0808

Laboratory: El Paso

Analysis: SO4 (IC) Analytical Method: E 300.0 QC Batch: 51801 2008-08-22 Date Analyzed: Prep Batch: 44427 Sample Preparation: 2008-08-22

Prep Method: N/AAnalyzed By: JRPrepared By: JR

RLFlag Result Dilution Parameter Units RLSulfate 6560 mg/L500 1.00

Work Order: 8080828 HELSTF GROUNDWATER Page Number: 15 of 77

Sample: 172137 - HLSF-0085-DRW-114-0808

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: Date Analyzed: 52175 2008-09-09 Analyzed By: RDPrep Batch: 44734Sample Preparation: 2008-09-08 Prepared By: RD

RL

Sample: 172137 - HLSF-0085-DRW-114-0808

Laboratory: Lubbock

Analysis: Fluoride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 2008-09-09 52175Date Analyzed: Analyzed By: RDPrep Batch: 44734 Sample Preparation: 2008-09-08 Prepared By: RD

RL

RL

RL

Sample: 172137 - HLSF-0085-DRW-114-0808

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: Date Analyzed: Analyzed By: RD521752008-09-09 Prep Batch: 44734Sample Preparation: 2008-09-08 Prepared By: RD

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Sample: 172139 - HLSF-0085-DRW-014-0808

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 2008-09-09 Analyzed By: RD52175Date Analyzed: Prep Batch: 44734Sample Preparation: 2008-09-08 Prepared By: RD

 Report Date: October 7, 2008 Work Order: 8080828 Page Number: 16 of 77 HELSTF GROUNDWATER

00		HELSIF GROUN	DWAIEK		
Sample: 17	2139 - HLSF-0085-DR	W-014-0808			
Laboratory:	Lubbock				
Analysis:	Fluoride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	52175	Date Analyzed:	2008-09-09	Analyzed By:	RD
Prep Batch:	44734	Sample Preparation:	2008-09-08	Prepared By:	RD
Trop Bacom	11101	Sample Treparecter.	2000 00 00	Troparea By	102
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Fluoride		28.4	mg/L	5	0.200
Sample: 17	2139 - HLSF-0085-DR	W-014-0808			
Laboratory:	Lubbock				
Analysis:	SO4 (IC)	Analytical Method: 1	$\Xi~300.0$	Prep Method:	N/A
QC Batch:	$5217\overline{5}$	· ·	2008-09-09	Analyzed By:	$\stackrel{'}{ m RD}$
Prep Batch:	44734	· ·	2008-09-08	Prepared By:	RD
•					
D 4	DI	RL	TT '	D.1 +	DI
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		12300	mg/L	500	1.00
Sample: 17 Laboratory: Analysis: QC Batch: Prep Batch:	2467 - HLSF-0085-HM Lubbock Chloride (IC) 52218 44772	Analytical Method: Date Analyzed: Sample Preparation:	E 300.0 2008-09-10 2008-09-08	Prep Method: Analyzed By: Prepared By:	N/A RD RD
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		20200	m mg/L	1000	3.00
Laboratory: Analysis: QC Batch:	2467 - HLSF-0085-HM Lubbock Fluoride (IC) 52218	Analytical Method: Date Analyzed:	E 300.0 2008-09-10	Prep Method: Analyzed By:	N/A RD
Prep Batch:	44772	Sample Preparation:	2008-09-08	Prepared By:	RD
Danamata:	T31	RL Pagult	IInita	Dilution	DT
Parameter	Flag	Result	Units	Dilution	RL

mg/L

0.200

49.4

Fluoride

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Prep Batch:

Parameter

Sulfate

44734

Flag

Sample: 172467 - HLSF-0085-HMW-053-0808 Laboratory: Lubbock Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 52218 Date Analyzed: 2008-09-10 Analyzed By: RDPrep Batch: Sample Preparation: 2008-09-08 Prepared By: RD44772RLParameter Flag Result Units Dilution RL33300 1000 1.00 Sulfate mg/LSample: 172638 - HLSF-0085-HMW-061-0908 Laboratory: Lubbock Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 521752008-09-09 RDDate Analyzed: Analyzed By: Prep Batch: 44734 Sample Preparation: 2008-09-08 Prepared By: RDRLResult Dilution Parameter Flag Units RLChloride 4920 mg/L500 3.00 Sample: 172638 - HLSF-0085-HMW-061-0908 Laboratory: Lubbock Analytical Method: Analysis: Fluoride (IC) E 300.0 Prep Method: N/AQC Batch: Date Analyzed: Analyzed By: RD521752008-09-09 Prep Batch: 44734Sample Preparation: 2008-09-08 Prepared By: RDRLParameter Flag Result Units Dilution RLFluoride 25.1mg/L 5 0.200 Sample: 172638 - HLSF-0085-HMW-061-0908 Laboratory: Lubbock Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 521752008-09-09 Analyzed By: RDDate Analyzed:

Sample Preparation:

RL

Result

9810

2008-09-08

Units

mg/L

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Prepared By:

Dilution

500

RD

RL

1.00

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-					
	72640 - HLSF-0085-HM	W-000-0908			
Laboratory:	Lubbock	A 1 125	E 200 0	D 14 1 1	37/4
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	52175	Date Analyzed:	2008-09-09	Analyzed By:	RD
Prep Batch:	44734	Sample Preparation:	2008-09-08	Prepared By:	RD
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		2010	m mg/L	500	3.00
Sample: 17	72640 - HLSF-0085-HM	W-060-0908			
Laboratory:	Lubbock				
Analysis:	Fluoride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	52175	Date Analyzed:	2008-09-09	Analyzed By:	RD
Prep Batch:	44734	Sample Preparation:	2008-09-08	Prepared By:	RD
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Fluoride	9	1.88	mg/L	5	0.200
Laboratory: Analysis:	Z2640 - HLSF-0085-HM Lubbock SO4 (IC) 52175	Analytical Method: I Date Analyzed: 2	E 300.0 2008-09-09 2008-09-08	Prep Method: Analyzed By: Prepared By:	N/A RD RD
QC Batch: Prep Batch:	44734	Dample 1 Teparation. 2			
•	44734				
•	44734 Flag	RL Result	Units	Dilution	RL
Prep Batch: Parameter		m RL	Units	Dilution	
Prep Batch:		m RL	Units mg/L	Dilution 500	
Prep Batch: Parameter Sulfate		RL Result 8260			
Prep Batch: Parameter Sulfate Sample: 17 Laboratory:	Flag 72795 - HLSF-0085-HM Lubbock	RL Result 8260 W-063-0908	mg/L	500	1.00
Prep Batch: Parameter Sulfate Sample: 17 Laboratory: Analysis:	Flag 2795 - HLSF-0085-HM Lubbock Chloride (IC)	RL Result 8260 W-063-0908 Analytical Method:	mg/L E 300.0	500 Prep Method:	1.00 N/A
Prep Batch: Parameter Sulfate Sample: 17 Laboratory: Analysis: QC Batch:	Flag 72795 - HLSF-0085-HM Lubbock Chloride (IC) 52260	RL Result 8260 W-063-0908 Analytical Method: Date Analyzed:	mg/L E 300.0 2008-09-11	500 Prep Method: Analyzed By:	1.00 N/A RD
Prep Batch: Parameter Sulfate Sample: 17 Laboratory: Analysis:	Flag 2795 - HLSF-0085-HM Lubbock Chloride (IC)	RL Result 8260 W-063-0908 Analytical Method:	mg/L E 300.0	500 Prep Method:	1.00 N/A
Prep Batch: Parameter Sulfate Sample: 17 Laboratory: Analysis: QC Batch:	Flag 72795 - HLSF-0085-HM Lubbock Chloride (IC) 52260	RL Result 8260 W-063-0908 Analytical Method: Date Analyzed:	mg/L E 300.0 2008-09-11	500 Prep Method: Analyzed By:	1.00 N/A RD

2010

mg/L

100

3.00

Chloride

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65		HELSTF GROUN	DWATER		
Sample: 17	2795 - HLSF-0085-HM	IW-063-0908			
Laboratory:	Lubbock				
Analysis:	Fluoride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	52260	Date Analyzed:	2008-09-11	Analyzed By:	RD
Prep Batch:	44805	Sample Preparation:	2008-09-10	Prepared By:	RD
		RL			
Parameter	Flag	Result	Units	$\operatorname{Dilution}$	RL
Fluoride		15.5	$\mathrm{mg/L}$	5	0.200
Sample: 17	2795 - HLSF-0085-HM	IW-063-0908			
Laboratory:	Lubbock				
Analysis:	SO4 (IC)	v	E 300.0	Prep Method:	N/A
QC Batch:	52260	v	2008-09-11	Analyzed By:	RD
Prep Batch:	44805	Sample Preparation: 2	2008-09-10	Prepared By:	RD
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Sulfate		11000	${ m mg/L}$	1000	1.00
Sample: 17 Laboratory:	2797 - HLSF-0085-H M Lubbock	IW-058-0908			
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	52218	Date Analyzed:	2008-09-10	Analyzed By:	RD
Prep Batch:	44772	Sample Preparation:	2008-09-08	Prepared By:	RD
r		•		ı J	
Parameter	Flag	$rac{ ext{RL}}{ ext{Result}}$	Units	Dilution	RL
Chloride	1	3280	mg/L	500	3.00
Sample: 17	2797 - HLSF-0085-HM	IW-058-0908	3.		
Laboratory:	Lubbock				
Analysis:	Fluoride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	52218	Date Analyzed:	2008-09-10	Analyzed By:	$\stackrel{'}{ m RD}$
Prep Batch:	44772	Sample Preparation:	2008-09-08	Prepared By:	RD
		RL			
Parameter	Flag	Result	Units	${\bf Dilution}$	RL
					_

22.9

Fluoride

mg/L

0.200

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N/A

RD

RD

Sample: 172797 - HLSF-0085-HMW-058-0908

Laboratory: Lubbock

Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: QC Batch: 52218 Date Analyzed: 2008-09-10 Analyzed By: Prep Batch: 44772 Sample Preparation: 2008-09-08 Prepared By:

RL

Sample: 172908 - HLSF-0085-HMW-057-0908

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 52218 RDDate Analyzed: 2008-09-10 Analyzed By: Prep Batch: 44772 Sample Preparation: 2008-09-08 Prepared By: RD

RL

Sample: 172908 - HLSF-0085-HMW-057-0908

Laboratory: Lubbock

Analytical Method: Analysis: Fluoride (IC) E 300.0 Prep Method: N/AQC Batch: 52218 Date Analyzed: Analyzed By: RD2008-09-10 Prep Batch: 44772Sample Preparation: 2008-09-08 Prepared By: RD

RL

Sample: 172908 - HLSF-0085-HMW-057-0908

Laboratory: Lubbock

Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 52218 2008-09-10 Analyzed By: RDDate Analyzed: Prep Batch: 44772Sample Preparation: 2008-09-08 Prepared By: RD

RL

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Sample: 172910 - HLSF-0085-DRW-002-0908

Laboratory: Lubbock

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: Date Analyzed: 52218 2008-09-10 Analyzed By: RDPrep Batch: 44772Sample Preparation: 2008-09-08 Prepared By: RD

RL

Sample: 172910 - HLSF-0085-DRW-002-0908

Laboratory: Lubbock

Analysis: Fluoride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 52218 2008-09-10 Date Analyzed: Analyzed By: RDPrep Batch: 44772 Sample Preparation: 2008-09-08 Prepared By: RD

RL

RL

Sample: 172910 - HLSF-0085-DRW-002-0908

Laboratory: Lubbock

Analytical Method: Analysis: SO4 (IC) E 300.0 Prep Method: N/AQC Batch: 52218 Date Analyzed: Analyzed By: RD2008-09-10 Prep Batch: 44772Sample Preparation: 2008-09-08 Prepared By: RD

Sample: 173041 - HLSF-0085-RB-001-0908

Laboratory: El Paso

Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 52326 2008-09-10 Analyzed By: JRDate Analyzed: Prep Batch: 44858 Sample Preparation: 2008-09-10 Prepared By: JR

RL

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Sample: 173041 - HLSF-0085-RB-001-0908

El Paso Laboratory:

Analysis: Fluoride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: Date Analyzed: JR52326 2008-09-10 Analyzed By: Prep Batch: 44858 Sample Preparation: 2008-09-10 Prepared By: JR

RL

Dilution Parameter Flag Result Units RL< 0.2000.200 Fluoride mg/L

Sample: 173041 - HLSF-0085-RB-001-0908

Laboratory: El Paso

Analysis: SO4 (IC) Analytical Method: E 300.0Prep Method: N/AQC Batch: 52326 Date Analyzed: 2008-09-10 Analyzed By: JRPrep Batch: 44858 Sample Preparation: 2008-09-10 Prepared By: JR

RL

Result Dilution RLParameter Flag Units Sulfate 1.80mg/L1.00

Sample: 173043 - HLSF-0085-HCF-003-0908

Laboratory: El Paso

Analytical Method: Analysis: Chloride (IC) E 300.0 Prep Method: N/AQC Batch: 52325 Date Analyzed: Analyzed By: JR2008-09-10 Prep Batch: 44857Sample Preparation: 2008-09-10 Prepared By: JR

RLParameter Flag Result Units Dilution RLChloride 109 2.00 mg/L10

Sample: 173043 - HLSF-0085-HCF-003-0908

Laboratory: El Paso

Analysis: Fluoride (IC) Analytical Method: E 300.0 Prep Method: N/AQC Batch: 523252008-09-10 Analyzed By: JRDate Analyzed: Prep Batch: 44857 Sample Preparation: 2008-09-10 Prepared By: JR

RL

Result Parameter Flag Units Dilution RLFluoride 0.790mg/L0.200

Work Order: 8080828 HELSTF GROUNDWATER

Sample: 173043 - HLSF-0085-HCF-003-0908

Laboratory: El Paso

Analysis:SO4 (IC)Analytical Method:E 300.0QC Batch:52325Date Analyzed:2008-09-10Prep Batch:44857Sample Preparation:2008-09-10

RL

Sample: 173045 - HLSF-0085-HCF-103-0908

Laboratory: El Paso

Analysis:Chloride (IC)Analytical Method:E 300.0QC Batch:52325Date Analyzed:2008-09-10Prep Batch:44857Sample Preparation:2008-09-10

Prep Method: N/A Analyzed By: JR

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Prep Method:

Analyzed By:

Prepared By:

N/A

JR

 $_{
m JR}$

Prepared By: JR

Sample: 173045 - HLSF-0085-HCF-103-0908

Laboratory: El Paso

Analysis:Fluoride (IC)Analytical Method:E 300.0QC Batch:52325Date Analyzed:2008-09-10Prep Batch:44857Sample Preparation:2008-09-10

Prep Method: N/A Analyzed By: JR

JR

Prepared By:

RL

Sample: 173045 - HLSF-0085-HCF-103-0908

Laboratory: El Paso

Analysis:SO4 (IC)Analytical Method:E 300.0QC Batch:52325Date Analyzed:2008-09-10Prep Batch:44857Sample Preparation:2008-09-10

Prep Method: N/A
Analyzed By: JR
Prepared By: JR

RL

Report Date: October 7, 2008		Work Order: 8080828 HELSTF GROUNDWATER			Page Number: 24 of 77	
Method Blank (1)	QC Batch: 51559					
QC Batch: 51559 Prep Batch: 44210		v	8-08-08 8-08-08		Analyzed By: Prepared By:	MD MD
Parameter	Flag	MDL Result		Units		m RL
Chloride	1165	< 0.640		mg/L		2
Method Blank (1)	QC Batch: 51559					
QC Batch: 51559 Prep Batch: 44210		J	8-08-08 8-08-08		Analyzed By: Prepared By:	MD MD
		MDL				
Parameter Fluoride	Flag	Result <0.0434		$\frac{\mathrm{Units}}{\mathrm{mg/L}}$		RL 0.2
Method Blank (1) QC Batch: 51559 Prep Batch: 44210	QC Batch: 51559	v	8-08-08 8-08-08		Analyzed By: Prepared By:	MD MD
Parameter	Flag	MDL Result		Units		m RL
Sulfate	Ü	< 0.504		m mg/L		1
Method Blank (1) QC Batch: 51560 Prep Batch: 44211	QC Batch: 51560	J	8-08-19 8-08-08		Analyzed By: Prepared By:	JR MD

MDL

Result

< 0.0434

Units

mg/L

RL

0.2

Parameter

Fluoride

Flag

Report Date: October 65	Date: October 7, 2008		Work Order: 8080828 HELSTF GROUNDWATER		Page Number: 25 of 7	
Method Blank (1)	QC Batch: 51593					
QC Batch: 51593 Prep Batch: 44242		Date Analyzed: QC Preparation:	2008-08-13 2008-08-13		Analyzed By: Prepared By:	JR JR
_			DL			
Parameter Chloride	Flag	Res < 0.6		$rac{ m Units}{ m mg/L}$		RL 2
Method Blank (1)	QC Batch: 51593					
QC Batch: 51593 Prep Batch: 44242		Date Analyzed: QC Preparation:	2008-08-13 2008-08-13		Analyzed By: Prepared By:	JR JR
Parameter	Flag	Mi Res	DL ult	Units		m RL
Sulfate	0	<0.5		m mg/L		1
Method Blank (1)	QC Batch: 51679					
QC Batch: 51679 Prep Batch: 44311		Date Analyzed: QC Preparation:	2008-08-14 2008-08-14		Analyzed By: Prepared By:	JR JR
D	T.		DL	TT 1:		DI
Parameter Chloride	Flag	Res < 0.6		$rac{ m Units}{ m mg/L}$		RL 2
Method Blank (1)	QC Batch: 51679					
QC Batch: 51679 Prep Batch: 44311		Date Analyzed: QC Preparation:	2008-08-14 2008-08-14		Analyzed By: Prepared By:	JR JR
Parameter	Flag	M Res	DL sult	Units		m RL

< 0.0434

mg/L

0.2

Fluoride

Report Date: October 7, 2008		Work Order: 8080828 HELSTF GROUNDWATER		Page Number: 26 of 77	
Method Blank (1)	QC Batch: 51679				
QC Batch: 51679 Prep Batch: 44311		Date Analyzed: 2008-08-14 QC Preparation: 2008-08-14		Analyzed By: JR Prepared By: JR	
D	Fl	MDL December	TI:4.	DI	
Parameter Sulfate	Flag	Result < 0.504	Units mg/L	RL 1	
Method Blank (1)	QC Batch: 51680				
QC Batch: 51680 Prep Batch: 44312		Date Analyzed: 2008-08-14 QC Preparation: 2008-08-14		Analyzed By: JR Prepared By: JR	
Parameter	Flag	$egin{array}{c} ext{MDL} \ ext{Result} \end{array}$	Units	RL	
Chloride		< 0.640	m mg/L	2	
Method Blank (1)	QC Batch: 51680				
QC Batch: 51680 Prep Batch: 44312		Date Analyzed: 2008-08-14 QC Preparation: 2008-08-14		Analyzed By: JR Prepared By: JR	
Parameter	Flag	$egin{array}{c} ext{MDL} \ ext{Result} \end{array}$	Units	RL	
Fluoride	2.100	< 0.0434	mg/L	0.2	
Method Blank (1)	QC Batch: 51680				
QC Batch: 51680 Prep Batch: 44312		Date Analyzed: 2008-08-14 QC Preparation: 2008-08-14		Analyzed By: JR Prepared By: JR	

MDL Result <0.504

Units

mg/L

RL

Flag

 $\frac{\mathrm{Parameter}}{\mathrm{Sulfate}}$

Report Date: October 7	7, 2008	Work Order: 8080828 Page Number HELSTF GROUNDWATER		Page Number: 27 of 77
Method Blank (1)	QC Batch: 51682			
QC Batch: 51682		Date Analyzed: 2008-08-18		Analyzed By: JR
Prep Batch: 44314		QC Preparation: 2008-08-18		Prepared By: JR
		MDL		
Parameter	Flag	Result	Units	RL
Chloride		< 0.640	m mg/L	2
Method Blank (1) QC Batch: 51682 Prep Batch: 44314	QC Batch: 51682	Date Analyzed: 2008-08-18 QC Preparation: 2008-08-18		Analyzed By: JR Prepared By: JR
		MDL		
Parameter	Flag	Result	Units	RL
Fluoride		< 0.0434	m mg/L	0.2
Method Blank (1) QC Batch: 51682 Prep Batch: 44314	QC Batch: 51682	Date Analyzed: 2008-08-18 QC Preparation: 2008-08-18		Analyzed By: JR Prepared By: JR
_		MDL		
Parameter	Flag	Result	Units	RL
Sulfate		< 0.504	m mg/L	1
Method Blank (1) QC Batch: 51798 Prep Batch: 44424	QC Batch: 51798	Date Analyzed: 2008-08-20 QC Preparation: 2008-08-20		Analyzed By: JR Prepared By: JR

MDL Result

< 0.640

Flag

Units mg/L RL

 $\frac{\text{Parameter}}{\text{Chloride}}$

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Method Blank (1)	QC Batch: 51798				
QC Batch: 51798 Prep Batch: 44424		Date Analyzed: 2008-08-20 QC Preparation: 2008-08-20		Analyzed By: JR Prepared By: JR	
		MDL			
Parameter	Flag	Result	Units	RL	
Fluoride		< 0.0434	m mg/L	0.2	
Method Blank (1)	QC Batch: 51798				
QC Batch: 51798 Prep Batch: 44424		Date Analyzed: 2008-08-20 QC Preparation: 2008-08-20		Analyzed By: JR Prepared By: JR	
Parameter	Flag	MDL Result	Units	RL	
Sulfate	1145	<0.504 mg/L			
Method Blank (1) QC Batch: 51799 Prep Batch: 44425	QC Batch: 51799	Date Analyzed: 2008-08-20 QC Preparation: 2008-08-20		Analyzed By: JR Prepared By: JR	
		MDL			
Parameter	Flag	Result	Units	RL	
Chloride		< 0.640	m mg/L	2	
Method Blank (1)	QC Batch: 51799				
QC Batch: 51799 Prep Batch: 44425		Date Analyzed: 2008-08-20 QC Preparation: 2008-08-20		Analyzed By: JR Prepared By: JR	
Darameter	Floor	MDL Popult	Unita	Dī	
Parameter Sulfate	Flag	Result < 0.504	$\frac{\rm Units}{\rm mg/L}$	RL 1	
Darrano		70.001	1118/11	<u>_</u>	

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Method Blank (1)	QC Batch: 51800			
QC Batch: 51800 Prep Batch: 44426		Date Analyzed: 2008-08-22 QC Preparation: 2008-08-22		Analyzed By: JR Prepared By: JR
Parameter	Flag	$rac{ ext{MDL}}{ ext{Result}}$	$_{ m Units}$	m RL
Chloride	Flag	<0.640	mg/L	2
Method Blank (1)	QC Batch: 51800			
QC Batch: 51800 Prep Batch: 44426		Date Analyzed: 2008-08-22 QC Preparation: 2008-08-22		Analyzed By: JR Prepared By: JR
Parameter	Flag	$egin{array}{c} ext{MDL} \ ext{Result} \end{array}$	Units	m RL
Fluoride		< 0.0434	m mg/L	0.2
Method Blank (1)	QC Batch: 51800			
QC Batch: 51800 Prep Batch: 44426		Date Analyzed: 2008-08-22 QC Preparation: 2008-08-22		Analyzed By: JR Prepared By: JR
Parameter	Flag	$egin{array}{c} ext{MDL} \ ext{Result} \end{array}$	Units	m RL
Sulfate		< 0.504	mg/L	1
Method Blank (1)	QC Batch: 51801			
QC Batch: 51801 Prep Batch: 44427		Date Analyzed: 2008-08-22 QC Preparation: 2008-08-22		Analyzed By: JR Prepared By: JR

 MDL

Units

mg/L

RL

Result

< 0.640

Flag

 $\frac{\text{Parameter}}{\text{Chloride}}$

Report Date: October 65	7, 2008	Work Order: 8080828 HELSTF GROUNDWATI	ER	Page Number: 30 of 77
Method Blank (1)	QC Batch: 51801			
QC Batch: 51801 Prep Batch: 44427		Date Analyzed: 2008-08-22 QC Preparation: 2008-08-22		Analyzed By: JR Prepared By: JR
D	T)	MDL	TT 14	DI
Parameter Fluoride	Flag	Result <0.0434	$\begin{array}{c} \text{Units} \\ \text{mg/L} \end{array}$	RL 0.2
Method Blank (1)	QC Batch: 51801			
QC Batch: 51801 Prep Batch: 44427		Date Analyzed: 2008-08-22 QC Preparation: 2008-08-22		Analyzed By: JR Prepared By: JR
Parameter	Flag	$rac{ ext{MDL}}{ ext{Result}}$	Units	m RL
Sulfate	Trag	< 0.504	m mg/L	1
Method Blank (1)	QC Batch: 52175			
QC Batch: 52175 Prep Batch: 44734		Date Analyzed: 2008-09-09 QC Preparation: 2008-09-08		Analyzed By: RD Prepared By: RD
Parameter	Flag	$egin{array}{c} ext{MDL} \ ext{Result} \end{array}$	Units	RL
Chloride		<1.74	m mg/L	3
Method Blank (1)	QC Batch: 52175			
QC Batch: 52175 Prep Batch: 44734		Date Analyzed: 2008-09-09 QC Preparation: 2008-09-08		Analyzed By: RD Prepared By: RD

 MDL

Result

< 0.0889

 Units

mg/L

RL

0.2

Flag

Parameter

Fluoride

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Method Blank (1)	QC Batch: 52175					
QC Batch: 52175 Prep Batch: 44734		Date Analyzed: QC Preparation:	2008-09-09 2008-09-08		Analyzed By: Prepared By:	RD RD
D	T)		DL	TT 11		DI
Parameter Sulfate	Flag	Res <0.5		$rac{ m Units}{ m mg/L}$		RL 1
Method Blank (1)	QC Batch: 52218					
QC Batch: 52218 Prep Batch: 44772		Date Analyzed: QC Preparation:	2008-09-10 2008-09-08		Analyzed By: Prepared By:	RD RD
Parameter	Flag	MI Res	ult	Units		RL
Chloride		<1.	.74	m mg/L		3
Method Blank (1)	QC Batch: 52218					
QC Batch: 52218 Prep Batch: 44772		Date Analyzed: QC Preparation:	2008-09-10 2008-09-08		Analyzed By: Prepared By:	RD RD
Parameter	Flag		IDL sult	Units		RL
Fluoride	Flag	<0.0		mg/L		0.2
Method Blank (1)	QC Batch: 52218					
QC Batch: 52218 Prep Batch: 44772		Date Analyzed: QC Preparation:	2008-09-10 2008-09-08		Analyzed By: Prepared By:	RD RD
Donomotor	Dla		DL	IInita		DТ
Parameter	Flag	Res		Units		RL

< 0.344

mg/L

Sulfate

Report Date: October 65	7, 2008	Work Order: 8080828 Page HELSTF GROUNDWATER		Page Number: 32	of 77
Method Blank (1)	QC Batch: 52260				
QC Batch: 52260 Prep Batch: 44805		· ·	3-09-11 3-09-10	Analyzed By: Prepared By:	RD RD
Parameter Chloride	Flag	MDL Result <1.74	Uni mg/		$\frac{\mathrm{RL}}{3}$
Omorrae		XI1		<u> </u>	
Method Blank (1)	QC Batch: 52260				
QC Batch: 52260 Prep Batch: 44805		v	3-09-11 3-09-10	Analyzed By: Prepared By:	RD RD
Parameter	Elam	MDL Result	Uni	:	DI
Fluoride Fluoride	Flag	<0.0889	mg		0.2
Method Blank (1)	QC Batch: 52260				
QC Batch: 52260 Prep Batch: 44805		J	3-09-11 3-09-10	Analyzed By: Prepared By:	RD RD
		MDL			
Parameter Sulfate	Flag	Result <0.344	Uni mg,		RL 1
Method Blank (1)	QC Batch: 52325				
QC Batch: 52325 Prep Batch: 44857		v	8-09-10 8-09-10	Analyzed By: Prepared By:	JR JR

MDL Result

< 0.640

Flag

Units mg/L RL

 $\frac{\text{Parameter}}{\text{Chloride}}$

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Method Blank (1)	QC Batch: 52325			
QC Batch: 52325 Prep Batch: 44857		Date Analyzed: 2008-09-10 QC Preparation: 2008-09-10		Analyzed By: JR Prepared By: JR
D	Di	MDL	TT */	DI
Parameter Fluoride	Flag	Result <0.0434	$\begin{array}{c} \rm Units \\ \rm mg/L \end{array}$	RL 0.2
Method Blank (1)	QC Batch: 52325			
QC Batch: 52325 Prep Batch: 44857		Date Analyzed: 2008-09-10 QC Preparation: 2008-09-10		Analyzed By: JR Prepared By: JR
Parameter	Flag	$rac{ ext{MDL}}{ ext{Result}}$	Units	m RL
Sulfate		< 0.504	m mg/L	1
Method Blank (1)	QC Batch: 52326			
QC Batch: 52326 Prep Batch: 44858		Date Analyzed: 2008-09-10 QC Preparation: 2008-09-10		Analyzed By: JR Prepared By: JR
Parameter	Flag	$rac{ ext{MDL}}{ ext{Result}}$	Units	m RL
Chloride	Tiag	< 0.640	mg/L	2
Method Blank (1)	QC Batch: 52326			
QC Batch: 52326 Prep Batch: 44858		Date Analyzed: 2008-09-10 QC Preparation: 2008-09-10		Analyzed By: JR Prepared By: JR

MDL

Result

< 0.0434

Units

mg/L

RL

0.2

Parameter

Fluoride

Flag

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Method Blank (1)

QC Batch: 52326

QC Batch: 52326 Prep Batch: 44858 Date Analyzed: 2008-09-10 QC Preparation: 2008-09-10 Analyzed By: JR Prepared By: JR

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MDL

		MDD		
Parameter	Flag	Result	${ m Units}$	RL
Sulfate		< 0.504	m mg/L	1

Laboratory Control Spike (LCS-1)

QC Batch: 51559 Prep Batch: 44210 Date Analyzed: 2008-08-08 QC Preparation: 2008-08-08 Analyzed By: MD Prepared By: MD

LCS Spike Matrix Rec. Param Result Dil. Amount Result Limit Units Rec. Chloride 12.0 12.5 < 0.640 96 90 - 110 mg/L

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	$_{ m LCSD}$			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	12.0	$\mathrm{mg/L}$	1	12.5	< 0.640	96	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51559 Prep Batch: 44210 Date Analyzed: 2008-08-08 QC Preparation: 2008-08-08 Analyzed By: MD Prepared By: MD

	LCS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec .	Limit
Fluoride	2.44	m mg/L	1	2.50	< 0.0434	98	88.6 - 107

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			$_{ m Spike}$	Matrix		Rec .		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	2.43	$\mathrm{mg/L}$	1	2.50	< 0.0434	97	88.6 - 107	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51559 Date Analyzed: 2008-08-08 Analyzed By: MD Prep Batch: 44210 QC Preparation: 2008-08-08 Prepared By: MD

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	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	$\overline{\mathrm{Amount}}$	Result	${ m Rec.}$	Limit
Sulfate	12.4	mg/L	1	12.5	< 0.504	99	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec .		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit	RPD	Limit
Sulfate	12.4	mg/L	1	12.5	< 0.504	99	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51560 Date Analyzed: 2008-08-19 Analyzed By: JR Prep Batch: 44211 QC Preparation: 2008-08-08 Prepared By: MD

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Fluoride	2.45	mg/L	1	2.50	< 0.0434	98	88.6 - 107

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	2.45	mg/L	1	2.50	< 0.0434	98	88.6 - 107	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51593 Date Analyzed: 2008-08-13 Analyzed By: JR
Prep Batch: 44242 QC Preparation: 2008-08-13 Prepared By: JR

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit
Chloride	11.9	$_{ m mg/L}$	1	12.5	< 0.640	95	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	11.9	mg/L	1	12.5	< 0.640	95	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51593 Date Analyzed: 2008-08-13 Analyzed By: JR
Prep Batch: 44242 QC Preparation: 2008-08-13 Prepared By: JR

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	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	$\overline{ m Amount}$	Result	$\mathrm{Rec}.$	\mathbf{Limit}
Sulfate	12.3	mg/L	1	12.5	< 0.504	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit	RPD	Limit
Sulfate	12.3	mg/L	1	12.5	< 0.504	98	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51679 Date Analyzed: 2008-08-14 Analyzed By: JR Prep Batch: 44311 QC Preparation: 2008-08-14 Prepared By: JR

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Chloride	12.2	mg/L	1	12.5	< 0.640	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit	RPD	Limit
Chloride	12.3	mg/L	1	12.5	< 0.640	98	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51679 Date Analyzed: 2008-08-14 Analyzed By: JR
Prep Batch: 44311 QC Preparation: 2008-08-14 Prepared By: JR

	LCS			Spike	Matrix		$\mathrm{Rec.}$
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit
Fluoride	2.46	$_{ m mg/L}$	1	2.50	< 0.0434	98	88.6 - 107

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	2.46	mg/L	1	2.50	< 0.0434	98	88.6 - 107	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51679 Date Analyzed: 2008-08-14 Analyzed By: JR
Prep Batch: 44311 QC Preparation: 2008-08-14 Prepared By: JR

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	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	$\overline{\mathrm{Amount}}$	Result	$\mathrm{Rec}.$	Limit
Sulfate	12.7	mg/L	1	12.5	< 0.504	102	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec .		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit	RPD	Limit
Sulfate	12.7	mg/L	1	12.5	< 0.504	102	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51680 Date Analyzed: 2008-08-14 Analyzed By: JR Prep Batch: 44312 QC Preparation: 2008-08-14 Prepared By: JR

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Chloride	12.2	mg/L	1	12.5	< 0.640	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	12.2	mg/L	1	12.5	< 0.640	98	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51680 Date Analyzed: 2008-08-14 Analyzed By: JR
Prep Batch: 44312 QC Preparation: 2008-08-14 Prepared By: JR

	LCS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit
Fluoride	2.45	$_{ m mg/L}$	1	2.50	< 0.0434	98	88.6 - 107

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	2.45	mg/L	1	2.50	< 0.0434	98	88.6 - 107	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51680 Date Analyzed: 2008-08-14 Analyzed By: JR
Prep Batch: 44312 QC Preparation: 2008-08-14 Prepared By: JR

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	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Sulfate	12.6	mg/L	1	12.5	< 0.504	101	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit	RPD	Limit
Sulfate	12.6	mg/L	1	12.5	< 0.504	101	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch:51682Date Analyzed:2008-08-18Analyzed By:JRPrep Batch:44314QC Preparation:2008-08-18Prepared By:JR

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Chloride	11.9	mg/L	1	12.5	< 0.640	95	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec .		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	11.9	mg/L	1	12.5	< 0.640	95	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51682 Date Analyzed: 2008-08-18 Analyzed By: JR
Prep Batch: 44314 QC Preparation: 2008-08-18 Prepared By: JR

	$_{ m LCS}$			Spike	Matrix		$\mathrm{Rec.}$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Fluoride	2.39	$_{ m mg/L}$	1	2.50	< 0.0434	96	88.6 - 107

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec .		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	2.39	mg/L	1	2.50	< 0.0434	96	88.6 - 107	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51682 Date Analyzed: 2008-08-18 Analyzed By: JR
Prep Batch: 44314 QC Preparation: 2008-08-18 Prepared By: JR

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	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	$\overline{ m Amount}$	Result	$\mathrm{Rec}.$	\mathbf{Limit}
Sulfate	12.3	mg/L	1	12.5	< 0.504	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec .		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	12.3	mg/L	1	12.5	< 0.504	98	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51798 Date Analyzed: 2008-08-20 Analyzed By: JR
Prep Batch: 44424 QC Preparation: 2008-08-20 Prepared By: JR

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Chloride	12.1	$_{ m mg/L}$	1	12.5	< 0.640	97	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	12.1	mg/L	1	12.5	< 0.640	97	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51798 Date Analyzed: 2008-08-20 Analyzed By: JR
Prep Batch: 44424 QC Preparation: 2008-08-20 Prepared By: JR

	$_{ m LCS}$			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Fluoride	2.46	$_{ m mg/L}$	1	2.50	< 0.0434	98	88.6 - 107

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	2.47	mg/L	1	2.50	< 0.0434	99	88.6 - 107	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51798 Date Analyzed: 2008-08-20 Analyzed By: JR
Prep Batch: 44424 QC Preparation: 2008-08-20 Prepared By: JR

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	$_{ m LCS}$			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Sulfate	12.4	$_{ m mg/L}$	1	12.5	< 0.504	99	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec .		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	12.5	mg/L	1	12.5	< 0.504	100	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51799 Date Analyzed: 2008-08-20 Analyzed By: JR
Prep Batch: 44425 QC Preparation: 2008-08-20 Prepared By: JR

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Chloride	12.0	$_{ m mg/L}$	1	12.5	< 0.640	96	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	12.0	mg/L	1	12.5	< 0.640	96	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51799 Date Analyzed: 2008-08-20 Analyzed By: JR
Prep Batch: 44425 QC Preparation: 2008-08-20 Prepared By: JR

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit
Sulfate	12.4	$_{ m mg/L}$	1	12.5	< 0.504	99	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit	RPD	Limit
Sulfate	12.4	mg/L	1	12.5	< 0.504	99	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51800 Date Analyzed: 2008-08-22 Analyzed By: JR
Prep Batch: 44426 QC Preparation: 2008-08-22 Prepared By: JR

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	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit
Chloride	11.8	$\mathrm{mg/L}$	1	12.5	< 0.640	94	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec .		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit	RPD	Limit
Chloride	11.9	$\mathrm{mg/L}$	1	12.5	< 0.640	95	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51800Date Analyzed: 2008-08-22 Analyzed By: $_{
m JR}$ Prep Batch: 44426 QC Preparation: 2008-08-22 Prepared By: $_{
m JR}$

	LCS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Fluoride	2.41	m mg/L	1	2.50	< 0.0434	96	88.6 - 107

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	2.42	mg/L	1	2.50	< 0.0434	97	88.6 - 107	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51800 Date Analyzed: 2008-08-22 Analyzed By: JR Prep Batch: 44426 QC Preparation: 2008-08-22 Prepared By: JR

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit
Sulfate	12.2	$_{ m mg/L}$	1	12.5	< 0.504	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	12.3	mg/L	1	12.5	< 0.504	98	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51801 Date Analyzed: 2008-08-22 Analyzed By: $_{
m JR}$ Prep Batch: 44427 QC Preparation: 2008-08-22 Prepared By:

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	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Chloride	12.0	$\mathrm{mg/L}$	1	12.5	< 0.640	96	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	12.0	mg/L	1	12.5	< 0.640	96	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51801 Date Analyzed: 2008-08-22 Analyzed By: JR Prep Batch: 44427 QC Preparation: 2008-08-22 Prepared By: JR

	LCS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec .	Limit
Fluoride	2.45	m mg/L	1	2.50	< 0.0434	98	88.6 - 107

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	2.46	mg/L	1	2.50	< 0.0434	98	88.6 - 107	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 51801 Date Analyzed: 2008-08-22 Analyzed By: JR
Prep Batch: 44427 QC Preparation: 2008-08-22 Prepared By: JR

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit
Sulfate	12.4	$_{ m mg/L}$	1	12.5	< 0.504	99	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	12.5	mg/L	1	12.5	< 0.504	100	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52175 Date Analyzed: 2008-09-09 Analyzed By: RD Prep Batch: 44734 QC Preparation: 2008-09-08 Prepared By: RD

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	$_{ m LCS}$			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Chloride	12.4	$_{ m mg/L}$	1	12.5	<1.74	99	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		${ m Rec.}$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec .	Limit	RPD	Limit
Chloride	12.3	mg/L	1	12.5	<1.74	98	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52175 Date Analyzed: 2008-09-09 Analyzed By: RD Prep Batch: 44734 QC Preparation: 2008-09-08 Prepared By: RD

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec.}$	Limit
Fluoride	2.63	$_{ m mg/L}$	1	2.50	< 0.0889	105	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	2.50	mg/L	1	2.50	< 0.0889	100	90 - 110	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52175 Date Analyzed: 2008-09-09 Analyzed By: RD Prep Batch: 44734 QC Preparation: 2008-09-08 Prepared By: RD

	$_{ m LCS}$			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Sulfate	12.4	$_{ m mg/L}$	1	12.5	< 0.344	99	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit	RPD	Limit
Sulfate	11.4	mg/L	1	12.5	< 0.344	91	90 - 110	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52218 Date Analyzed: 2008-09-10 Analyzed By: RD Prep Batch: 44772 QC Preparation: 2008-09-08 Prepared By: RD

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	$_{ m LCS}$			Spike	Matrix		Rec.
Param	Result	Units	Dil.	$\overline{\mathrm{Amount}}$	Result	$\mathrm{Rec}.$	Limit
Chloride	12.1	$_{ m mg/L}$	1	12.5	< 1.74	97	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec.}$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	12.1	mg/L	1	12.5	<1.74	97	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52218 Date Analyzed: 2008-09-10 Analyzed By: RD
Prep Batch: 44772 QC Preparation: 2008-09-08 Prepared By: RD

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec.}$	Limit
Fluoride	2.35	mg/L	1	2.50	< 0.0889	94	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	2.36	mg/L	1	2.50	< 0.0889	94	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52218 Date Analyzed: 2008-09-10 Analyzed By: RD Prep Batch: 44772 QC Preparation: 2008-09-08 Prepared By: RD

	$_{ m LCS}$			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Sulfate	11.4	mg/L	1	12.5	< 0.344	91	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit	RPD	Limit
Sulfate	11.4	mg/L	1	12.5	< 0.344	91	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52260 Date Analyzed: 2008-09-11 Analyzed By: RD Prep Batch: 44805 QC Preparation: 2008-09-10 Prepared By: RD

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	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit
Chloride	12.4	mø/L	1	12.5	< 1.74	99	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec.}$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec .	Limit	RPD	Limit
Chloride	12.4	mg/L	1	12.5	<1.74	99	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52260 Date Analyzed: 2008-09-11 Analyzed By: RD
Prep Batch: 44805 QC Preparation: 2008-09-10 Prepared By: RD

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec.}$	Limit
Fluoride	2.58	$_{ m mg/L}$	1	2.50	< 0.0889	103	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	2.54	mg/L	1	2.50	< 0.0889	102	90 - 110	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52260 Date Analyzed: 2008-09-11 Analyzed By: RD Prep Batch: 44805 QC Preparation: 2008-09-10 Prepared By: RD

	LCS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Sulfate	11.3	$_{ m mg/L}$	1	12.5	< 0.344	90	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit	RPD	Limit
Sulfate	12.8	mg/L	1	12.5	< 0.344	102	90 - 110	12	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52325 Date Analyzed: 2008-09-10 Analyzed By: JR
Prep Batch: 44857 QC Preparation: 2008-09-10 Prepared By: JR

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	$_{ m LCS}$			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Chloride	11.9	$\mathrm{mg/L}$	1	12.5	< 0.640	95	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec .		RPD
Param	Result	Units	Dil.	A mount	Result	Rec.	Limit	RPD	Limit
Chloride	11.9	mg/L	1	12.5	< 0.640	95	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52325 Date Analyzed: 2008-09-10 Analyzed By: JR Prep Batch: 44857 QC Preparation: 2008-09-10 Prepared By: JR

	LCS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec .	Limit
Fluoride	2.46	m mg/L	1	2.50	< 0.0434	98	88.6 - 107

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec .		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	2.46	mg/L	1	2.50	< 0.0434	98	88.6 - 107	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52325 Date Analyzed: 2008-09-10 Analyzed By: JR
Prep Batch: 44857 QC Preparation: 2008-09-10 Prepared By: JR

	$_{ m LCS}$			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit
Sulfate	12.3	$_{ m mg/L}$	1	12.5	< 0.504	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit	RPD	Limit
Sulfate	12.3	mg/L	1	12.5	< 0.504	98	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52326 Date Analyzed: 2008-09-10 Analyzed By: JR
Prep Batch: 44858 QC Preparation: 2008-09-10 Prepared By: JR

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	$_{ m LCS}$			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Chloride	12.0	$\mathrm{mg/L}$	1	12.5	< 0.640	96	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	12.0	mg/L	1	12.5	< 0.640	96	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52326 Date Analyzed: 2008-09-10 Analyzed By: JR Prep Batch: 44858 QC Preparation: 2008-09-10 Prepared By: JR

	LCS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Fluoride	2.48	m mg/L	1	2.50	< 0.0434	99	88.6 - 107

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	2.48	mg/L	1	2.50	< 0.0434	99	88.6 - 107	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 52326 Date Analyzed: 2008-09-10 Analyzed By: JR
Prep Batch: 44858 QC Preparation: 2008-09-10 Prepared By: JR

	LCS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit
Sulfate	12.4	$_{ m mg/L}$	1	12.5	< 0.504	99	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit	RPD	Limit
Sulfate	12.4	$\mathrm{mg/L}$	1	12.5	< 0.504	99	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170067

QC Batch: 51559 Date Analyzed: 2008-08-08 Analyzed By: MD Prep Batch: 44210 QC Preparation: 2008-08-08 Prepared By: MD

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	$\overline{\mathrm{MS}}$			Spike	Matrix		Rec.
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec .	Limit
Chloride	14600	${ m mg/L}$	500	6250	8750	94	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec .	Limit	RPD	Limit
Chloride	14700	mg/L	500	6250	8750	95	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170067

QC Batch: 51559 Date Analyzed: 2008-08-08 Analyzed By: MD Prep Batch: 44210 QC Preparation: 2008-08-08 Prepared By: MD

MSSpike Matrix Rec. Param Result Units Dil. Amount Result Limit Rec. 1220 1250 < 21.7Fluoride mg/L500 97 89.9 - 104

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	1220	mg/L	500	1250	<21.7	97	89.9 - 104	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170067

QC Batch: 51559 Date Analyzed: 2008-08-08 Analyzed By: MD Prep Batch: 44210 QC Preparation: 2008-08-08 Prepared By: MD

MSSpike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Sulfate 20700 500 6250 14500 82.7 - 108 mg/L 99

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	20700	mg/L	500	6250	14500	99	82.7 - 108	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170170

QC Batch: 51560 Date Analyzed: 2008-08-19 Analyzed By: JR
Prep Batch: 44211 QC Preparation: 2008-08-08 Prepared By: MD

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MSSpike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Fluoride 125 mg/L50 125 3.05 98 89.9 - 104

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	125	mg/L	50	125	3.05	98	89.9 - 104	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170168

MSSpike Rec. Matrix Limit Param Dil. Amount Result Result Units Rec. 7710 1960 Chloride mg/L500 6250 92 90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	7720	mg/L	500	6250	1960	92	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170168

QC Batch: 51593 Date Analyzed: 2008-08-13 Analyzed By: JR
Prep Batch: 44242 QC Preparation: 2008-08-13 Prepared By: JR

MSSpike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit 13300 Sulfate 500 6250 7540 92 82.7 - 108 mg/L

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

MSD Spike Matrix Rec. RPD Param Result Units Dil. Amount Result Rec. Limit RPD Limit 13300 6250 7540 82.7 - 108 20 Sulfate mg/L500 92

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170455

QC Batch: 51679 Date Analyzed: 2008-08-14 Analyzed By: JR
Prep Batch: 44311 QC Preparation: 2008-08-14 Prepared By: JR

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	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit
Chloride	7980	mg/L	500	6250	1770	99	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	7870	mg/L	500	6250	1770	98	90 - 110	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170455

	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Fluoride	1210	$\mathrm{mg/L}$	500	1250	<21.7	97	89.9 - 104

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	1230	mg/L	500	1250	<21.7	98	89.9 - 104	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170455

QC Batch: 51679 Date Analyzed: 2008-08-14 Analyzed By: JR
Prep Batch: 44311 QC Preparation: 2008-08-14 Prepared By: JR

	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit
Sulfate	13000	mg/L	500	6250	6920	97	82.7 - 108

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	13000	mg/L	500	6250	6920	97	82.7 - 108	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170457

QC Batch: 51680 Date Analyzed: 2008-08-14 Analyzed By: JR
Prep Batch: 44312 QC Preparation: 2008-08-14 Prepared By: JR

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	MS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit
Chloride	7200	$\mathrm{mg/L}$	500	6250	1130	97	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	7200	mg/L	500	6250	1130	97	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170457

MSSpike Matrix Rec. Param Units Dil. Amount Result Limit Result Rec. 1230 1250 < 21.7Fluoride mg/L500 98 89.9 - 104

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	1230	$_{ m mg/L}$	500	1250	<21.7	98	89.9 - 104	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170457

QC Batch: 51680 Date Analyzed: 2008-08-14 Analyzed By: JR
Prep Batch: 44312 QC Preparation: 2008-08-14 Prepared By: JR

MSSpike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Sulfate 12300 500 6250 5920 102 82.7 - 108 mg/L

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec.}$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	12000	mg/L	500	6250	5920	97	82.7 - 108	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170986

QC Batch: 51682 Date Analyzed: 2008-08-18 Analyzed By: JR
Prep Batch: 44314 QC Preparation: 2008-08-18 Prepared By: JR

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	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Chloride	7560	mg/L	500	6250	1710	94	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		${ m Rec.}$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	7540	mg/L	500	6250	1710	93	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170986

QC Batch: 51682 Date Analyzed: 2008-08-18 Analyzed By: JR Prep Batch: 44314 QC Preparation: 2008-08-18 Prepared By: JR

	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit
Fluoride	1200	$_{ m mg/L}$	500	1250	<21.7	96	89.9 - 104

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	1190	mg/L	500	1250	<21.7	95	89.9 - 104	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 170986

QC Batch: 51682 Date Analyzed: 2008-08-18 Analyzed By: JR
Prep Batch: 44314 QC Preparation: 2008-08-18 Prepared By: JR

	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Sulfate	12300	$\mathrm{mg/L}$	500	6250	6370	95	82.7 - 108

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	12200	mg/L	500	6250	6370	93	82.7 - 108	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 171111

QC Batch: 51798 Date Analyzed: 2008-08-20 Analyzed By: JR
Prep Batch: 44424 QC Preparation: 2008-08-20 Prepared By: JR

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	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	$\overline{\mathrm{Amount}}$	Result	Rec .	Limit
Chloride	7680	$\mathrm{mg/L}$	500	6250	1810	94	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	7670	mg/L	500	6250	1810	94	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 171111

QC Batch: 51798 Date Analyzed: 2008-08-20 Analyzed By: JR Prep Batch: 44424 QC Preparation: 2008-08-20 Prepared By: JR

	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Fluoride	1230	mg/L	500	1250	<21.7	98	89.9 - 104

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec .	Limit	RPD	Limit
Fluoride	1230	mg/L	500	1250	<21.7	98	89.9 - 104	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 171111

QC Batch: 51798 Date Analyzed: 2008-08-20 Analyzed By: JR
Prep Batch: 44424 QC Preparation: 2008-08-20 Prepared By: JR

	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec .	Limit
Sulfate	11600	$_{ m mg/L}$	500	6250	5770	93	82.7 - 108

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	11600	mg/L	500	6250	5770	93	82.7 - 108	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 171300

QC Batch: 51799 Date Analyzed: 2008-08-20 Analyzed By: JR
Prep Batch: 44425 QC Preparation: 2008-08-20 Prepared By: JR

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	$\overline{\mathrm{MS}}$			Spike	Matrix		Rec.
Param	Result	Units	Dil.	$\overline{ ext{Amount}}$	Result	Rec .	Limit
Chloride	7120	${ m mg/L}$	500	6250	1200	95	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	7110	mg/L	500	6250	1200	94	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 171300

QC Batch: 51799 Date Analyzed: 2008-08-20 Analyzed By: JR Prep Batch: 44425 QC Preparation: 2008-08-20 Prepared By: JR

	MS			Spike	Matrix		$\mathrm{Rec.}$
Param	Result	$_{ m Units}$	Dil.	${ m Amount}$	Result	Rec.	Limit
Sulfate	13000	mg/L	500	6250	7240	92	82.7 - 108

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	13100	mg/L	500	6250	7240	94	82.7 - 108	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 171731

QC Batch: 51800 Date Analyzed: 2008-08-22 Analyzed By: JR
Prep Batch: 44426 QC Preparation: 2008-08-22 Prepared By: JR

	MS			Spike	Matrix		${ m Rec.}$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit
Chloride	11800	$\mathrm{mg/L}$	500	6250	5910	94	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit	RPD	Limit
Chloride	11800	mg/L	500	6250	5910	94	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 171731

QC Batch: 51800 Date Analyzed: 2008-08-22 Analyzed By: JR
Prep Batch: 44426 QC Preparation: 2008-08-22 Prepared By: JR

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WOLK	Order.	0000020
HELSTF	GROU	NDWATER

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	${\bf Amount}$	Result	Rec .	Limit
Fluoride	1190	${ m mg/L}$	500	1250	<21.7	95	89.9 - 104

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	1200	mg/L	500	1250	<21.7	96	89.9 - 104	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 171731

QC Batch: 51800Date Analyzed: 2008-08-22 Analyzed By: $_{
m JR}$ Prep Batch: 44426 QC Preparation: 2008-08-22 Prepared By: $_{
m JR}$

	MS			Spike	Matrix		Rec .
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Sulfate	18800	$_{ m mg/L}$	500	6250	13100	91	82.7 - 108

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit	RPD	Limit
Sulfate	18800	mg/L	500	6250	13100	91	82.7 - 108	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Spiked Sample: 171735 Matrix Spike (MS-1)

QC Batch: 51801 Date Analyzed: 2008-08-22 Analyzed By: $_{
m JR}$ Prep Batch: 44427 QC Preparation: 2008-08-22 Prepared By: JR

	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${f Amount}$	Result	$\mathrm{Rec}.$	Limit
Chloride	8590	$_{ m mg/L}$	500	6250	2750	93	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit	RPD	Limit
Chloride	8590	mg/L	500	6250	2750	93	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 171735

QC Batch: 51801 Date Analyzed: 2008-08-22 Analyzed By: $_{
m JR}$ Prep Batch: 44427 QC Preparation: 2008-08-22 Prepared By: JR

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	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Fluoride	1220	$\mathrm{mg/L}$	500	1250	<21.7	97	89.9 - 104

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	1220	mg/L	500	1250	<21.7	97	89.9 - 104	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 171735

QC Batch: 51801 Date Analyzed: 2008-08-22 Analyzed By: JR
Prep Batch: 44427 QC Preparation: 2008-08-22 Prepared By: JR

	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Sulfate	12400	mg/L	500	6250	6560	93	82.7 - 108

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	12500	mg/L	500	6250	6560	95	82.7 - 108	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 172908

QC Batch: 52218 Date Analyzed: 2008-09-10 Analyzed By: RD Prep Batch: 44772 QC Preparation: 2008-09-08 Prepared By: RD

	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	$\mathrm{Dil}.$	${f Amount}$	Result	Rec .	Limit
Chloride	8340	$_{ m mg/L}$	500	6250	3042.34	85	62.2 - 146

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		Rec .		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	8160	mg/L	500	6250	3042.34	82	62.2 - 146	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 172908

QC Batch: 52218 Date Analyzed: 2008-09-10 Analyzed By: RD Prep Batch: 44772 QC Preparation: 2008-09-08 Prepared By: RD

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	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec	Limit
Fluoride	805	mg/L	500	1250	<44.4	64	63.5 - 127

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	833	mg/L	500	1250	< 44.4	67	63.5 - 127	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 172908

QC Batch: 52218 Date Analyzed: 2008-09-10 Analyzed By: RD Prep Batch: 44772 QC Preparation: 2008-09-08 Prepared By: RD

		MS			Spike	Matrix		${ m Rec.}$
Param		Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Sulfate	1	16100	mg/L	500	6250	12833.7	52	61.5 - 151

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

		MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param		Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	2	16000	mg/L	500	6250	12833.7	51	61.5 - 151	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 172795

QC Batch: 52260 Date Analyzed: 2008-09-11 Analyzed By: RD Prep Batch: 44805 QC Preparation: 2008-09-10 Prepared By: RD

	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit
Chloride	13800	$_{ m mg/L}$	1000	12500	2474.87	91	62.2 - 146

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Chloride	13800	mg/L	1000	12500	2474.87	91	62.2 - 146	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

¹Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

² Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

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Matrix Spike (MS-1) Spiked Sample: 172795

QC Batch: 52260 Prep Batch: 44805 Date Analyzed: 2008-09-11 QC Preparation: 2008-09-10 Analyzed By: RD Prepared By: RD

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MSSpike Matrix Rec. Param Result Dil. Result Limit Units Amount Rec. <88.9 63.5 - 127 Fluoride 1800 1000 250072 mg/L

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

		MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param		Result	Units	Dil.	A mount	Result	Rec.	Limit	RPD	Limit
Fluoride	3	1560	mg/L	1000	2500	< 88.9	62	63.5 - 127	14	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 172795

QC Batch: 52260 Prep Batch: 44805 Date Analyzed: 2008-09-11 QC Preparation: 2008-09-10 Analyzed By: RD Prepared By: RD

MSSpike Matrix Rec. Param Result Units Dil. Amount Result Limit Rec. Sulfate 23100 1000 10996.4 mg/L 1250097 61.5 - 151

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		${ m Rec.}$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	22000	mg/L	1000	12500	10996.4	88	61.5 - 151	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 173043

QC Batch: 52325 Prep Batch: 44857 Date Analyzed: 2008-09-10 QC Preparation: 2008-09-10

Analyzed By: JR Prepared By: JR

MSSpike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit Chloride 716 mg/L625 109 97 90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

 $continued \dots$

³ Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

matrix spikes continued									
	MSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec .	Limit	RPD	Limit
	3.505			G 11			_		
	MSD			${ m Spike}$	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec}.$	Limit	RPD	Limit
Chloride	716	mg/L	50	625	109	97	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 173043

QC Batch: 52325Prep Batch: 44857 Date Analyzed: 2008-09-10 QC Preparation: 2008-09-10 Analyzed By: JR Prepared By: JR

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		MS			Spike	Matrix		$\mathrm{Rec}.$
Param		Result	Units	Dil.	${ m Amount}$	Result	$\mathrm{Rec.}$	Limit
Fluoride	4	182	$_{ m mg/L}$	50	125	< 2.17	145	89.9 - 104

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

		MSD			$_{ m Spike}$	Matrix		$\mathrm{Rec.}$		RPD
Param		Result	Units	Dil.	${ m Amount}$	Result	Rec .	Limit	RPD	Limit
Fluoride	5	141	mg/L	50	125	< 2.17	112	89.9 - 104	25	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 173043

QC Batch: Date Analyzed: 2008-09-10 52325 Prep Batch: 44857QC Preparation: 2008-09-10 Analyzed By: $_{
m JR}$ Prepared By: $_{
m JR}$

	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec .	Limit
Sulfate	2000	$\mathrm{mg/L}$	50	625	1360	102	82.7 - 108

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	2000	mg/L	50	625	1360	102	82.7 - 108	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

⁴ Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

⁵Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

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Matrix Spike (MS-1) Spiked Sample: 173041

QC Batch: 52326 Prep Batch: 44858 Date Analyzed: 2008-09-10 QC Preparation: 2008-09-10

Analyzed By: JR Prepared By: JR

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MSSpike Matrix Rec. Dil. Param Result Limit Result Units Amount Rec. < 3.20Chloride 60.3 62.5 90 - 110 mg/L94

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec .	Limit	RPD	Limit
Chloride	60.2	m mg/L	5	62.5	< 3.20	94	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 173041

QC Batch: 52326 Prep Batch: 44858 Date Analyzed: 2008-09-10 QC Preparation: 2008-09-10

Analyzed By: JR Prepared By: JR

MS Spike Matrix Rec. Param Result Units Dil. Amount Result Limit Rec. Fluoride 12.4 < 0.217mg/L12.5 99 89.9 - 104 5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			Spike	Matrix		Rec .		RPD
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit	RPD	Limit
Fluoride	12.4	mg/L	5	12.5	< 0.217	99	89.9 - 104	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 173041

QC Batch: 52326 Prep Batch: 44858 Date Analyzed: 2008-09-10 QC Preparation: 2008-09-10

Analyzed By: JR Prepared By: JR

	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	${f Amount}$	Result	Rec .	Limit
Sulfate	62.7	$\mathrm{mg/L}$	5	62.5	< 2.52	97	82.7 - 108

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MSD			$_{ m Spike}$	Matrix		$\mathrm{Rec}.$		RPD
Param	Result	Units	Dil.	${ m Amount}$	Result	Rec.	Limit	RPD	Limit
Sulfate	62.6	${ m mg/L}$	5	62.5	< 2.52	97	82.7 - 108	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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09			HEL	STF GROUNL	WATER		
Standard ((ICV-1)						
QC Batch:	51559		Date Ana	alyzed: 2008-0	8-08	Anal	yzed By: MD
			ICVs	${ m ICVs}$	${ m ICVs}$	Percent	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Chloride		$\mathrm{mg/L}$	12.5	11.7	94	90 - 110	2008-08-08
Standard ((ICV-1)						
QC Batch:	51559		Date Ana	alyzed: 2008-0	8-08	Anal	yzed By: MD
			ICVs	ICVs	${ m ICVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Fluoride		mg/L	2.50	2.39	96	90 - 110	2008-08-08
Standard (QC Batch:	`		Date Ana	alyzed: 2008-0	8-08	Anal	yzed By: MD
			ICVs	ICVs	${ m ICVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Sulfate		$\mathrm{mg/L}$	12.5	11.6	93	90 - 110	2008-08-08
Standard ((CCV-1)						
QC Batch:	51559		Date Ana	alyzed: 2008-0	8-08	Anal	yzed By: MD
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	$\operatorname{Recovery}$	Date
ъ	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Param	riag	0				90 - 110	2008-08-08

Standard (CCV-1)

			CCVs	CCVs	CCVs	$\operatorname{Percent}$	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Fluoride		$_{ m mg/L}$	2.50	2.41	96	90 - 110	2008-08-08

Report Date: October 7, 2008 65	Work Order: 8080828 HELSTF GROUNDWATER	Page Number: 62 of 77
Standard (CCV-1)		

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	$\operatorname{Recovery}$	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
$\operatorname{Sulfate}$		m mg/L	12.5	11.6	93	90 - 110	2008-08-08

Date Analyzed: 2008-08-08

Analyzed By: MD

Standard (ICV-1)

QC Batch: 51559

QC Batch: 51560	Date Analyzed: 2008-08-19			Analyzed By: JR
	ICVs	ICVs	ICVs	Percent

			ICVs	ICVs	ICVs	$\operatorname{Percent}$	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	Conc .	Conc .	Recovery	Limits	${ m Analyzed}$
Fluoride		m mg/L	2.50	2.41	96	90 - 110	2008-08-19

Standard (CCV-1)

QC Batch:	51560	Date Analyzed:	2008-08-19	Analyzed By	v: JR
QC Dασι.	01000	Date Hilaryzea.	2000 00 10	Timary zea D	, отс

			CCVs	CCVs	CCVs	$\operatorname{Percent}$	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	Conc .	$\operatorname{Recovery}$	Limits	${ m Analyzed}$
Fluoride		m mg/L	2.50	2.44	98	90 - 110	2008-08-19

Standard (ICV-1)

QC Batch:	51593	Date Analyzed:	2008-08-13	Analyzed By:	JR.
WO Dation.	.) [.) [.)	Date Analyzed.	4000-00-10	A Halvaeu Dv.	., 11

			ICVs	ICVs	${ m ICVs}$	Percent	
			True	Found	$\operatorname{Percent}$	$\operatorname{Recovery}$	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Chloride		$\mathrm{mg/L}$	12.5	11.6	93	90 - 110	2008-08-13

Standard (ICV-1)

QC Batch: 51593 Date Analyzed: 2008-08-13 Analyzed By: JR

			ICVs	${ m ICVs}$	ICVs	$\operatorname{Percent}$	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Sulfate		$\mathrm{mg/L}$	12.5	11.5	92	90 - 110	2008-08-13

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Analyzed By: JR

Standard	(CCV-1)							
QC Batch:	51593		Date Analyzed: 2008-08-13			Ana	Analyzed By: JR	
			CCVs	CCVs	CCVs	Percent		
			True	Found	$\operatorname{Percent}$	Recovery	Date	
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	Analyzed	
			0 0	001101	10 000.01	23.111.00	TITION	
		mg/L	12.5	11.8	94	90 - 110		
Standard	(CCV-1)			11.8	94	90 - 110	2008-08-1	
Chloride Standard QC Batch:	(CCV-1)		12.5	11.8	94	90 - 110	2008-08-13	
Standard	(CCV-1)		12.5 Date An	11.8 alyzed: 2008-0	94	90 - 110 Ana	2008-08-13	
Standard	(CCV-1)		$\begin{array}{c} 12.5 \\ \text{Date An} \\ \text{CCVs} \end{array}$	11.8 alyzed: 2008-0 CCVs	94 98-13 CCVs	90 - 110 Ana Percent	2008-08-1;	

QC Batch: 51679			Date Ana	alyzed: 2008-0	Analyzed By: JR		
			$_{ m TCVs}$	$_{ m ICVs}$	$_{ m ICVs}$	Percent	D.
			True	Found	$\operatorname{Percent}$	$\operatorname{Recovery}$	Date
Param	Flag	Units	Conc .	Conc .	Recovery	Limits	${ m Analyzed}$
Chloride		m mg/L	12.5	12.1	97	90 - 110	2008-08-14

Standard (ICV-1)

 $QC \ Batch: \ 51679$

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Fluoride		m mg/L	2.50	2.45	98	90 - 110	2008-08-14

Date Analyzed: 2008-08-14

Standard (ICV-1)

QC Batch:	51679	Date Analyzed:	2008-08-14	Analyzed By	: JR

			ICVs	ICVs	${ m ICVs}$	$\operatorname{Percent}$	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	Conc .	Conc .	Recovery	Limits	${\bf Analyzed}$
$\overline{\mathrm{Sulfate}}$		m mg/L	12.5	12.0	96	90 - 110	2008-08-14

QC Batch: 51680

Flag

 Param

Fluoride

$\begin{array}{c} {\rm Work~Order:~8080828} \\ {\rm HELSTF~GROUNDWATER} \end{array}$

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Analyzed By: JR

Date

Analyzed 2008-08-14

Percent

Recovery

Limits

90 - 110

Standard	(CCV-1)						
QC Batch:	51679		Date An	alyzed: 2008-0	8-14	Ana	lyzed By: JR
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		$\mathrm{mg/L}$	12.5	12.2	98	90 - 110	2008-08-14
Standard	(CCV-1)						
QC Batch:	51679		Date An	alyzed: 2008-0	8-14	Ana	lyzed By: JR
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
		Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Param	Flag	Units	Conc.	COHO	10000.01	131111100	TITION
Fluoride	Flag (CCV-1)	mg/L	2.50	2.47	99	90 - 110	2008-08-14
	(CCV-1)		2.50		99	90 - 110	
Fluoride Standard	(CCV-1)		2.50	2.47	99	90 - 110	2008-08-14
Fluoride Standard	(CCV-1)	m mg/L	2.50 Date An	2.47 alyzed: 2008-0 CCVs Found	99	90 - 110 Ana Percent Recovery	2008-08-14
Fluoride Standard QC Batch:	(CCV-1)	m mg/L Units	2.50 Date An CCVs True Conc.	2.47 alyzed: 2008-0 CCVs Found Conc.	99 8-14 CCVs	90 - 110 Ana Percent Recovery Limits	2008-08-14 lyzed By: JR Date Analyzed
Fluoride Standard	(CCV-1) 51679	m mg/L	2.50 Date An CCVs True	2.47 alyzed: 2008-0 CCVs Found	99 8-14 CCVs Percent	90 - 110 Ana Percent Recovery	2008-08-14 lyzed By: JR Date Analyzed
Fluoride Standard QC Batch: Param Sulfate	(CCV-1) 51679 Flag	m mg/L Units	2.50 Date An CCVs True Conc.	2.47 alyzed: 2008-0 CCVs Found Conc.	99 8-14 CCVs Percent Recovery	90 - 110 Ana Percent Recovery Limits	2008-08-14 lyzed By: JR Date
Fluoride Standard QC Batch:	(CCV-1) 51679 Flag (ICV-1)	m mg/L Units	2.50 Date An CCVs True Conc. 12.5	2.47 alyzed: 2008-0 CCVs Found Conc.	99 8-14 CCVs Percent Recovery 96	90 - 110 Ana Percent Recovery Limits 90 - 110	2008-08-14 lyzed By: JR Date Analyzed
Fluoride Standard QC Batch: Param Sulfate Standard	(CCV-1) 51679 Flag (ICV-1)	m mg/L Units	2.50 Date An CCVs True Conc. 12.5	2.47 alyzed: 2008-0 CCVs Found Conc. 12.0	99 8-14 CCVs Percent Recovery 96	90 - 110 Ana Percent Recovery Limits 90 - 110	2008-08-14 lyzed By: JR Date Analyzed 2008-08-14
Fluoride Standard QC Batch: Param Sulfate Standard	(CCV-1) 51679 Flag (ICV-1)	m mg/L Units	Date An CCVs True Conc. 12.5	2.47 alyzed: 2008-0 CCVs Found Conc. 12.0	99 8-14 CCVs Percent Recovery 96	90 - 110 Ana Percent Recovery Limits 90 - 110	2008-08-14 lyzed By: JR Date Analyzed 2008-08-14
Fluoride Standard QC Batch: Param Sulfate Standard	(CCV-1) 51679 Flag (ICV-1)	${ m mg/L}$ Units	Date An CCVs True Conc. 12.5 Date An ICVs	2.47 alyzed: 2008-0 CCVs Found Conc. 12.0 alyzed: 2008-0	99 8-14 CCVs Percent Recovery 96	90 - 110 Ana Percent Recovery Limits 90 - 110 Ana Percent	2008-08-14 lyzed By: JR Date Analyzed 2008-08-14

Date Analyzed: 2008-08-14

ICVs

Found

 ${\rm Conc.}$

2.47

ICVs

Percent

 ${\bf Recovery}$

99

ICVs

True

Conc.

2.50

Units

mg/L

Report	Date:	${\bf October}$	7,	2008
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65	HELSTF GROUNDWATER	-

Standard	(ICV-1)
QC Batch:	51680

	Analyzed By	7: JR
Percent		
Recovery	Ţ	Date

			ICVs	ICVs	ICVs	$\operatorname{Percent}$	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
$\operatorname{Sulfate}$		${ m mg/L}$	12.5	12.0	96	90 - 110	2008-08-14

Standard (CCV-1)

QC Batch:	51680
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Analyzed By: JR

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Chloride		m mg/L	12.5	12.1	97	90 - 110	2008-08-14

Standard (CCV-1)

QC Batch: 51680

Date Analyzed: 2008-08-14

Analyzed By: JR

			CCVs	CCVs	CCVs	Percent	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Fluoride		m mg/L	2.50	2.47	99	90 - 110	2008-08-14

Standard (CCV-1)

 $QC \ Batch: \ 51680$

Date Analyzed: 2008-08-14

Analyzed By: JR

			CCVs	CCVs	CCVs	Percent	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Sulfate		m mg/L	12.5	12.0	96	90 - 110	2008-08-14

Standard (ICV-1)

QC Batch: 51682

Date Analyzed: 2008-08-18

Analyzed By: JR

			ICVs	ICVs	ICVs	$\operatorname{Percent}$	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Chloride		m mg/L	12.5	11.7	94	90 - 110	2008-08-18

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2008-08-18

Standard ((ICV-1)						
QC Batch:	51682		Date An	alyzed: 2008-0	8-18	Ana	lyzed By: JR
Param	Flag	$_{ m Units}$	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	$egin{array}{c} { m Date} \ { m Analyzed} \end{array}$
Fluoride	0	m mg/L	2.50	2.37	95	90 - 110	2008-08-18
Standard ((ICV-1)						
QC Batch:	51682		Date An	alyzed: 2008-0	8-18	Ana	lyzed By: JR
D	DI	TT24-	ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
$\frac{\text{Param}}{\text{Sulfate}}$	Flag	$\frac{\rm Units}{\rm mg/L}$	Conc. 12.5	Conc. 11.6	Recovery 93	Limits 90 - 110	Analyzed 2008-08-18
Standard (QC Batch:	`		Date An	alyzed: 2008-0	8-18	Ana	lyzed By: JR
Param	Flag	Units	$egin{array}{c} \mathrm{CCVs} \\ \mathrm{True} \\ \mathrm{Conc.} \end{array}$	$\begin{array}{c} {\rm CCVs} \\ {\rm Found} \\ {\rm Conc.} \end{array}$	$egin{array}{c} ext{CCVs} \ ext{Percent} \ ext{Recovery} \end{array}$	Percent Recovery Limits	$egin{array}{c} ext{Date} \ ext{Analyzed} \end{array}$
$\frac{\Gamma \text{ aram}}{\text{Chloride}}$	Tag	mg/L	12.5	11.8	94	90 - 110	2008-08-18
Standard ((CCV-1)						
QC Batch:	51682		Date An	alyzed: 2008-0	8-18	Ana	lyzed By: JR
Param	Flag	${ m Units}$	$egin{array}{c} ext{CCVs} \ ext{True} \ ext{Conc.} \end{array}$	$egin{array}{c} \mathrm{CCVs} \\ \mathrm{Found} \\ \mathrm{Conc.} \end{array}$	CCVs Percent Recovery	Percent Recovery Limits	$\begin{array}{c} \text{Date} \\ \text{Analyzed} \end{array}$

Standard (CCV-1)

Fluoride

QC Batch: 51682 Date Analyzed: 2008-08-18 Analyzed By: JR

2.40

96

90 - 110

2.50

mg/L

			CCVs	CCVs	CCVs	$\operatorname{Percent}$	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	Conc .	$\operatorname{Recovery}$	Limits	Analyzed
Sulfate		$_{ m mg/L}$	12.5	11.7	94	90 - 110	2008-08-18

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65			HEL	STF GROUNL	OWATER		
Standard	(ICV-1)						
QC Batch:	51798		Date An	alyzed: 2008-0	08-20	Ana	alyzed By: JR
			ICVs	${ m ICVs}$	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Chloride		$\mathrm{mg/L}$	12.5	11.9	95	90 - 110	2008-08-20
Standard	(ICV-1)						
QC Batch:	51798		Date An	alyzed: 2008-0	08-20	Ana	alyzed By: JR
			ICVs	ICVs	${ m ICVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	Conc.	Recovery	Limits	Analyzed
Fluoride	<u> </u>	$_{ m mg/L}$	2.50	2.43	97	90 - 110	2008-08-20
QC Batch:	51798		Date An	alyzed: 2008-0	08-20	Ana	alyzed By: JR
QC Batteri.	91190		Date III	aryzea. 2000 e	50 20	11110	aryzed by. 510
			ICVs	ICVs	ICVs	$\operatorname{Percent}$	
T.	T.	TT 1.	True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Sulfate		mg/L	12.5	11.7	94	90 - 110	2008-08-20
Standard	(CCV-1)						
QC Batch:	51798		Date An	alyzed: 2008-0	08-20	Ana	alyzed By: JR
			CCVs	CCVs	CCVs	Percent	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Chloride		$\mathrm{mg/L}$	12.5	11.9	95	90 - 110	2008-08-20
Standard	(CCV-1)						
QC Batch:	51798		Date An	alyzed: 2008-0	08-20	Ana	alyzed By: JR

 CCVs

Found

 ${\rm Conc.}$

2.45

 CCVs

Percent

Recovery

98

Percent Recovery

 ${\bf Limits}$

90 - 110

Date

 ${\bf Analyzed}$

2008-08-20

 CCVs

True

 ${\rm Conc.}$

2.50

Flag

 Param

Fluoride

 ${\bf Units}$

mg/L

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Standard ((CCV-1)
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Date Analyzed: 2008-08-20 QC Batch: 51798 Analyzed By: JR

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
$\overline{\mathrm{Sulfate}}$		$_{ m mg/L}$	12.5	11.7	94	90 - 110	2008-08-20

Standard (ICV-1)

QC Batch: 51799 Date Analyzed: 2008-08-20 Analyzed By: JR

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	Conc.	Recovery	Limits	${ m Analyzed}$
Chloride		$\mathrm{mg/L}$	12.5	11.9	95	90 - 110	2008-08-20

Standard (ICV-1)

QC Batch: 51799 Date Analyzed: 2008-08-20 Analyzed By: JR

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	$\operatorname{Recovery}$	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Sulfate		$\mathrm{mg/L}$	12.5	11.7	94	90 - 110	2008-08-20

Standard (CCV-1)

QC Batch: 51799 Date Analyzed: 2008-08-20 Analyzed By: JR

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Chloride		m mg/L	12.5	11.8	94	90 - 110	2008-08-20

Standard (CCV-1)

QC Batch: 51799 Date Analyzed: 2008-08-20 Analyzed By: JR

			CCVs	CCVs	$\mathrm{CC}\mathrm{Vs}$	$\operatorname{Percent}$	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	Conc .	Recovery	Limits	Analyzed
Sulfate		m mg/L	12.5	11.6	93	90 - 110	2008-08-20

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Standard ((ICV-1)								
QC Batch: 51800			Date An	alyzed: 2008-0	Ana	lyzed By: JR			
Param Chloride	Flag	$\frac{\rm Units}{\rm mg/L}$	ICVs True Conc. 12.5	ICVs Found Conc. 11.5	ICVs Percent Recovery	Percent Recovery Limits 90 - 110	Date Analyzed 2008-08-22		
		- Oi							
Standard ((ICV-1)								
QC Batch:	51800		Date An	alyzed: 2008-0	Analyzed By: JR				
Param	Flag	$_{ m Units}$	ICVs True Conc.	$\begin{array}{c} \rm ICVs \\ \rm Found \\ \rm Conc. \end{array}$	ICVs Percent Recovery	Percent Recovery Limits	$egin{array}{c} { m Date} \ { m Analyzed} \end{array}$		
Fluoride	1 145	mg/L	2.50	2.37	95	90 - 110	2008-08-22		
Standard ((ICV-1)								
QC Batch:	51800		Date An	Date Analyzed: 2008-08-22			Analyzed By: JR		
Param	Flag	$_{ m Units}$	ICVs True Conc.	$\begin{array}{c} \rm ICVs \\ \rm Found \\ \rm Conc. \end{array}$	ICVs Percent Recovery	Percent Recovery Limits	$\begin{array}{c} {\rm Date} \\ {\rm Analyzed} \end{array}$		

Param	Flag	Units	${ m True} \ { m Conc.}$	$\begin{array}{c} \text{Found} \\ \text{Conc.} \end{array}$	Percent Recovery	$egin{array}{c} ext{Recovery} \ ext{Limits} \end{array}$	$egin{array}{c} { m Date} \ { m Analyzed} \end{array}$
Sulfate	1100	mg/L	12.5	11.3	90	90 - 110	2008-08-22

Standard (CCV-1)

QC Batch: 51800

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	$\operatorname{Recovery}$	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Chloride		$_{ m mg/L}$	12.5	11.7	94	90 - 110	2008-08-22

Date Analyzed: 2008-08-22

Analyzed By: JR

Standard (CCV-1)

QC Batch:	51800	Date Analyzed:	2008-08-22	Analyzed By:	$_{ m JR}$

			CCVs	CCVs	CCVs	$\operatorname{Percent}$	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	${\bf Analyzed}$
Fluoride		m mg/L	2.50	2.42	97	90 - 110	2008-08-22

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QC Batch: 51800 Date Analyzed: 2008-08-22 Analyzed By: JR

			CCVs	CCVs	CCVs	Percent	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Sulfate		$_{ m mg/L}$	12.5	11.6	93	90 - 110	2008-08-22

Standard (ICV-1)

QC Batch: 51801 Date Analyzed: 2008-08-22 Analyzed By: JR

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Chloride		$_{ m mg/L}$	12.5	11.7	94	90 - 110	2008-08-22

Standard (ICV-1)

QC Batch: 51801 Date Analyzed: 2008-08-22 Analyzed By: JR

			ICVs	ICVs	ICVs	Percent	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	Conc .	Conc .	Recovery	Limits	${ m Analyzed}$
Fluoride		$\mathrm{mg/L}$	2.50	2.42	97	90 - 110	2008-08-22

Standard (ICV-1)

QC Batch: 51801 Date Analyzed: 2008-08-22 Analyzed By: JR

			ICVs	ICVs	ICVs	$\operatorname{Percent}$	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	Conc .	Conc.	Recovery	Limits	Analyzed
Sulfate		$\mathrm{mg/L}$	12.5	11.6	93	90 - 110	2008-08-22

Standard (CCV-1)

QC Batch: 51801 Date Analyzed: 2008-08-22 Analyzed By: JR

			$rac{ ext{CCVs}}{ ext{True}}$	${ m CCVs} \ { m Found}$	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	$rac{Dave}{Analyzed}$
Chloride		m mg/L	12.5	11.9	95	90 - 110	2008-08-22

Standard (CCV-1)

Standard (ICV-1)

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Standard (CCV-1)		

QC Batch: 51801			Date Ana	alyzed: 2008-0	Analyzed By: JR		
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Fluoride		m mg/L	2.50	2.46	98	90 - 110	2008-08-22

QC Batch:	51801		Date Analyzed: 2008-08-22				Analyzed By: JR		
			CCVs	CCVs	CCVs	Percent			
			True	Found	$\operatorname{Percent}$	Recovery	Date		
D	T31	TT **	α	a	T)	T	A 1 1		

Param	Flag	Units	$\operatorname{Conc.}$	Conc .	$\operatorname{Recovery}$	Limits	${ m Analyzed}$
Sulfate		m mg/L	12.5	11.7	94	90 - 110	2008-08-22
							_
Standard	(ICV-1)						

QC Batch:	52175		Date Ana	alyzed: 2008-09	Analyzed By: RD		
			$rac{ m ICVs}{ m True}$	${ m ICVs} \ { m Found}$	$egin{array}{l} ext{ICVs} \ ext{Percent} \end{array}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	$\overline{\text{Analyzed}}$
C1 1 ' 1		/т	10 5	10.4	00	00 110	0000 00 00

			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Chloride		m mg/L	12.5	12.4	99	90 - 110	2008-09-09
_							_

QC Batch:	52175		Date Ana	alyzed: 2008-0	Analyzed By: RD		
			ICVs	ICVs	${ m ICVs}$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Fluoride		m mg/L	2.50	2.61	104	90 - 110	2008-09-09

Standard (ICV-1)			
QC Batch: 52175	Date Analyzed: 2008-09-09	Analyzed By:	RD

			ICVs	ICVs	ICVs	$\operatorname{Percent}$	
			True	Found	$\operatorname{Percent}$	$\operatorname{Recovery}$	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Sulfate		m mg/L	12.5	11.5	92	90 - 110	2008-09-09

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Standard	(CCV-1)

QC Batch: 52175

Date Analyzed: 2008-09-09

Analyzed By: RD

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			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Chloride		m mg/L	12.5	12.2	98	90 - 110	2008-09-09

Standard (CCV-1)

QC Batch: 52175

Date Analyzed: 2008-09-09

Analyzed By: RD

			CCVs	CCVs	CCVs	$\operatorname{Percent}$	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Fluoride		m mg/L	2.50	2.49	100	90 - 110	2008-09-09

Standard (CCV-1)

QC Batch: 52175

Date Analyzed: 2008-09-09

Analyzed By: RD

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
$\overline{\mathrm{Sulfate}}$		m mg/L	12.5	11.3	90	90 - 110	2008-09-09

Standard (ICV-1)

QC Batch: 52218

Date Analyzed: 2008-09-10

Analyzed By: RD

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Chloride		m mg/L	12.5	12.4	99	90 - 110	2008-09-10

Standard (ICV-1)

QC Batch: 52218

Date Analyzed: 2008-09-10

Analyzed By: RD

			ICVs	ICVs	ICVs	Percent	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Fluoride		$_{ m mg/L}$	2.50	2.36	94	90 - 110	2008-09-10

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Standard (ICV-1)		
QC Batch: 52218	Date Analyzed: 2008-09-10	Analyzed By: RD

			ICVs	${ m ICVs}$	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Sulfate		m mg/L	12.5	11.5	92	90 - 110	2008-09-10

Standard (CCV-1)

QC Batch: 52218	Date Analyzed	: 2008-09-10	Analyzed By:	RD

			CCVs	CCVs	CCVs	Percent	
			True	Found	$\operatorname{Percent}$	$\operatorname{Recovery}$	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	${\bf Analyzed}$
Chloride		$\mathrm{mg/L}$	12.5	12.1	97	90 - 110	2008-09-10

Standard (CCV-1)

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Fluoride		m mg/L	2.50	2.36	94	90 - 110	2008-09-10

Standard (CCV-1)

QC Batch:	52218	Date Analyzed:	2008-09-10	Analyzed By:	BD
WO Datum.	14410	Date Analyzed	Z000-03-10	A HALVAEU DV.	11.17

			CCVs	CCVs	CCVs	$\operatorname{Percent}$	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	Conc.	Recovery	Limits	Analyzed
$\overline{\mathrm{Sulfate}}$		m mg/L	12.5	11.4	91	90 - 110	2008-09-10

Standard (ICV-1)

QC Batch:	52260	Date Analyzed:	2008-09-11	Analyzed By	y: 1	RD

			$1 \mathrm{CVs}$	ICVs	${ m ICVs}$	$\operatorname{Percent}$	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	Conc .	Conc .	Recovery	Limits	Analyzed
Chloride		m mg/L	12.5	12.4	99	90 - 110	2008-09-11

Flag

Param

Sulfate

 ${\rm Units}$

mg/L

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QC Batch: 52260		Date Ana	alyzed: 2008-0	9-11	Anal	yzed By: RD
4 0 0-200			-			., — , · = -
		$_{ m TCVs}$	ICVs	$_{ m ICVs}$	Percent	D 4
Param F	lom Ilmita	$egin{array}{c} { m True} \\ { m Conc.} \end{array}$	Found Conc.	Percent	$egin{array}{c} { m Recovery} \\ { m Limits} \end{array}$	Date
Fluoride F	$\frac{ m lag}{ m mg/L}$	2.50	2.33	Recovery 93	90 - 110	Analyzed 2008-09-11
1 Idolide	mg/ L	2.50	2.00		50 110	2000 00 11
Standard (ICV-1	1)					
QC Batch: 52260		Date Ana	alyzed: 2008-0	9-11	Anal	yzed By: RD
		ICVs	$_{ m ICVs}$	ICVs	Percent	
		True	Found	Percent	Recovery	Date
Param Fla	ag Units	Conc.	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Sulfate	$_{ m mg/L}$	12.5	11.5	92	90 - 110	2008-09-13
QC Batch: 52260			alyzed: 2008-0			yzed By: RD
QC Batch: 52200		Date Ana	aryzed: 2008-0	9-11	Anai	yzea b y: KD
		CCVs	CCVs	CCVs	$\operatorname{Percent}$	
		True	Found	Percent	Recovery	Date
	lag Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Param F Chloride	lag Units mg/L				•	
	mg/L	Conc .	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Chloride	mg/L 1)	Conc. 12.5	$\operatorname{Conc.}$	Recovery 100	Limits 90 - 110	Analyzed
Chloride Standard (CCV-	mg/L 1)	Conc. 12.5	Conc. 12.5	Recovery 100	Limits 90 - 110	Analyzed 2008-09-11
Chloride Standard (CCV- QC Batch: 52260	mg/L 1)	Conc. 12.5 Date Ana	Conc. 12.5 alyzed: 2008-0 CCVs Found	Recovery 100	Limits 90 - 110 Anal Percent Recovery	Analyzed 2008-09-11
Chloride Standard (CCV- QC Batch: 52260	mg/L 1)	Conc. 12.5 Date Ana	Conc. 12.5 alyzed: 2008-0	Recovery 100 9-11 CCVs	Limits 90 - 110 Anal Percent	Analyzed 2008-09-11

CCVs

Found

 ${\rm Conc.}$

12.7

CCVs

True

 ${\rm Conc.}$

12.5

CCVs

Percent

Recovery

102

Percent

Recovery

 ${\bf Limits}$

90 - 110

Date

Analyzed 2008-09-11

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Standard ((ICV-1)	į
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QC Batch: 52325 Date Analyzed: 2008-09-10 Analyzed By: JR

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	${\bf Analyzed}$
Chloride		$_{ m mg/L}$	12.5	11.5	92	90 - 110	2008-09-10

Standard (ICV-1)

QC Batch: 52325 Date Analyzed: 2008-09-10 Analyzed By: JR

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Fluoride		m mg/L	2.50	2.38	95	90 - 110	2008-09-10

Standard (ICV-1)

QC Batch: 52325 Date Analyzed: 2008-09-10 Analyzed By: JR

			ICVs	${ m ICVs}$	ICVs	Percent	
			True	Found	Percent	$\operatorname{Recovery}$	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Sulfate		$\mathrm{mg/L}$	12.5	11.4	91	90 - 110	2008-09-10

Standard (CCV-1)

QC Batch: 52325 Date Analyzed: 2008-09-10 Analyzed By: JR

			CCVs	CCVs	CCVs	$\operatorname{Percent}$	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	Conc .	Conc.	Recovery	Limits	${ m Analyzed}$
Chloride		m mg/L	12.5	11.8	94	90 - 110	2008-09-10

Standard (CCV-1)

QC Batch: 52325 Date Analyzed: 2008-09-10 Analyzed By: JR

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			CCVs	CCVs	CCVs	$\operatorname{Percent}$	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	Analyzed
Fluoride		m mg/L	2.50	2.45	98	90 - 110	2008-09-10

Standard (CCV-1)

Flag

 ${\bf Units}$

mg/L

QC Batch: 52326

 Param

Chloride

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Analyzed By: JR

Date

Analyzed

2008-09-10

Percent

Recovery

Limits

90 - 110

Standard	(CCV-1)							
QC Batch: 52325			Date An	ate Analyzed: 2008-09-10 A			lyzed By: JR	
Param Sulfate	Flag	$\begin{array}{c} \text{Units} \\ \text{mg/L} \end{array}$	CCVs True Conc. 12.5	CCVs Found Conc. 11.6	CCVs Percent Recovery	Percent Recovery Limits 90 - 110	Date Analyzed 2008-09-10	
Standard	(ICV-1)							
QC Batch:	QC Batch: 52326		Date An	alyzed: 2008-0	09-10	Analyzed By:		
Param Chloride	Flag	$\begin{array}{c} \text{Units} \\ \text{mg/L} \end{array}$	ICVs True Conc. 12.5	ICVs Found Conc. 11.8	ICVs Percent Recovery 94	Percent Recovery Limits 90 - 110	Date Analyzed 2008-09-10	
Standard	(ICV-1)							
QC Batch:	52326		Date An	alyzed: 2008-0	09-10	Ana	lyzed By: JR	
Param Fluoride	Flag	Units mg/L	ICVs True Conc. 2.50	ICVs Found Conc. 2.45	ICVs Percent Recovery 98	Percent Recovery Limits 90 - 110	Date Analyzed 2008-09-10	
Standard	(ICV-1)							
QC Batch:	52326		Date Analyzed: 2008-09-10			Ana	lyzed By: JR	
Param Sulfate	Flag	$\begin{array}{c} \text{Units} \\ \text{mg/L} \end{array}$	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits 90 - 110	Date Analyzed 2008-09-10	

Date Analyzed: 2008-09-10

CCVs

Found

Conc.

11.8

CCVs

Percent

Recovery

94

CCVs

True

 ${\rm Conc.}$

12.5

Report	Date:	October	7,	2008
65				

Standard	(CCV-1)
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QC Batch: 52326

Date Analyzed: 2008-09-10

Analyzed By: JR

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			CCVs	CCVs	CCVs	$\operatorname{Percent}$	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc .	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Fluoride		m mg/L	2.50	2.46	98	90 - 110	2008-09-10

Standard (CCV-1)

QC Batch: 52326

Date Analyzed: 2008-09-10

Analyzed By: JR

			CCVs	CCVs	CCVs	Percent	
			True	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	$\operatorname{Conc.}$	$\operatorname{Conc.}$	Recovery	Limits	${ m Analyzed}$
Sulfate		$\mathrm{mg/L}$	12.5	11.7	94	90 - 110	2008-09-10